IOP Conference Series: Materials Science and Engineering 2017 vol.240 N1

## Obtaining alternative fuel from sweet sorghum in the conditions of the Republic of Tatarstan

Kashapov N., Nafikov M., Gilmanshin I., Nigmatzyanov A. Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

## **Abstract**

© Published under licence by IOP Publishing Ltd. In the agro-industrial complex of the Russian Federation the main types of energy resources is the FCM (fuel-lubricating materials), electricity, coal and gas. Priority energy is determined depending on the orientation of the activity of the agricultural enterprise. In the cost of getting products one of the key factors is its energy intensity. Under the energy intensity means the amount of energy expended per unit of finished product. Domestic manufacturers lag behind on this indicator from their foreign colleagues. Greatly influenced by the climatic conditions of production, which affects the amount of energy expended annually becoming more expensive. In the article, the authors address a topical issue of renewable(alternative) fuels from sweet sorghum in the stems of which contains from 14 to 21 % sugar. In the Republic of Tatarstan tested and introduced varieties of sweet sorghum. On the basis of literary data and carried out their own research given a set of equipment and presents non-waste production chain of biodiesel and fuel pellets from stems of sweet sorghum.

http://dx.doi.org/10.1088/1757-899X/240/1/012034

## References

- [1] Pashchenko A I 2010 Economic evaluation of prospects for obtaining of biobutanol from non-grain raw materials Collection. articles of II international. nauchno-prakt. Conf
- [2] Pashchenko A I 2010 Economic and non-Economic regulation of production of second generation biofuels Chemistry and the environment The development of science and education
- [3] Tarasov V I 2008 the Technological and economic prospects and regulatory support of production and sales of Russian biofuel Manufacturer of Russia
- [4] Tarasov V 2010 Prospects for biofuel production from genetically modified raw materials Chemistry and the environment The development of science and education
- [5] RBC 2010 Analytical review (Moscow) The Consulting Department The market of biofuel: biofuel, biodiesel, biogas, pellets
- [6] Nafikov M M, Fomin D V and Ngmatzyanov A R 2016 Varieties and processing methods of cultivation of sugar sorghum (Sorghum Bicolor (L.) Moench) Fodder production 7 29-33
- [7] Fomin D V, Nigmatzyanov A R, Chekmarev P A and Nafikov M M 2016 Influence of predecessors and levels of nutrition on impurity, agrophysical properties of soil and productivity of sweet sorghum Agriculture 5 26-28
- [8] Nafikov M M, Yakushkin N M, Fomin V N, Kashapov N F, Fomin D V and Nigmatzyanov A R 2016 Sweet sorghum: technological and economic aspects of cultivation in the Republic of Tatarstan (Tutorial Kazan: Publishing house Snacks) 40
- [9] Kashapov N F, Nafikov M M, Gazetdinov M KH, Nafikova M M and Nigmatzyanov A R 2016 Innovative production technology ethanol from sweet sorghum IOP Conference Series: Materials Science and Engineering 134 012012
- [10] Pashchenko A 2011 Market Prospects of liquid biofuels APK: Economy, management 46-50