Органічне землеробство дуже популярне в європейських країнах і США, які, незважаючи на розвиток агротехнічної промисловості, в першу чергу, дбають про якість одержуваної продукції і здоров'я населення.

Таким чином, екологічне землеробство стає все більш популярним в наш час. Воно передбачає розумний підхід у вирощуванні різних сільськогосподарських культур (овочів, зелені та ін). Таке землеробство не порушує екологічність навколишнього середовища та дозволяє отримати високоякісну продукцію для харчування.

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CEREAL STRAW AS A SOURCE OF ENERGY

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Without any doubt it can be stated that energy sector is a basis for almost every activity in modern world and plays a crucial role in economical progress of a country, moreover it provides foundation for sustainable development of a society as a whole.

Nonetheless considering the energy safety of a country (society) to be completely reliable in every socio-political situation is a great mistake. In the context of globalization (first of all under conditions of competitive development of

polycentric world) positions of states being the energy donators are characterized by increased instability, unpredictability, and political selfishness.

Consequently, the countries which were and are the energy recipients must build their own systems of energy safety which become effective enough to balance dysfunctional influences (challenges, threats, dangers) which are created by international environment [1-4].

The task of reducing of energy dendence can be partially solved by developing the effective energy safety programmes and the alternative energy sector in Ukraine. According to Energy Strategy for 2030, the alternative energy share should reach 20 %. The main directions of alternative energy in Ukraine are wind power, solar power, bioenergy and hydroelectic power [5].

High and unstable oil and gas prices, the necessity in more economical consumption of fuel reserve, the necessity to protect the environment and solving the problems of climate change cause the need to find alternative energy sources, in particular, to expand the energetic use of biomass. Its main components are straw and other agricultural waste (stems, pots, husk, etc.), as well as wood waste, liquid fuels from biomass, different types of biogas and energy crops [6].

It is projected that by 2020 the EU land available for cultivating energy crops will grow to 20.5 million ha, and by 2030 – to 26.2 million ha.

Energy crops are very important for the bioenergy sector of the European Union. European Biomass Association (AEBIOM) estimates the current potential of energy crops in the EU as 44-47 Mtoe/y. One of the EU 2020 targets is to reach 138 Mtoe of biomass in the gross final energy consumption that corresponds to 14% of GFC. The available potential of energy crops allows covering about 1/3 of the target [3].

In Ukraine, only 2.5% of the energy consumed from its total volume comes from biomass, while in Western Europe – about 12%, and in a number of Scandinavian countries – from 17% to 40% [4].

Currently, the world has accumulated enough extensive experience in the use of vegetable waste agricultural production, primarily straw, for energy purposes.

When burning 1 tonne of straw, about 3 MW of thermal energy is exuded, which means replacing 333 cubic meters of gas. The recognized leader in this sector of bioenergy is Denmark, where from 6 million t of straw annually produced nearly 1.5 million t are burned down for energy production (~ 17 PJ / year) [5].

Ukraine has some experience in energy and biofuels production from straw. About 100 boilers and heat generators for straw bales are in operation in rural areas of the country. About 45 of them are the boilers manufactured by UTEM (Ukraine), 10 units are the boilers of Faust and Passat Energi (Denmark) make, the others are heat generators of Brig (Ukraine) make. Total installed capacity of the equipment is estimated as 70 MWth. The sector of solid biofuel production from straw is also developing: in 2012, 21,700 t of pellets and 2,000 t of briquettes were produced in the country. The first part of Vin-Pelleta, a new factory, started its operation in Vinnytsa oblast (Ukraine) in autumn 2012. Its productivity is 75,000 t/yr of straw pellets. In 2014 the factory reached its design productivity of 150,000 t/yr. Smart Energy, the owner of Vin-Pelleta, is planning to build 20 factories for the production of straw pellets in all Ukraine's regions. Total productivity of the factories is supposed to be 2.5-3 Mt [7]. In addition, KSG Agro (a Ukrainian agricultural holding) started the operation of a factory for straw pellets production in Dnipropetrovska oblast (Ukraine) in 2014. The agricultural holding is going to use its own feedstock for the pellets production. Further plans include construction of another two factories, in Dnipropetrovska oblast.

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