investigators have worker on the similar aspect and their reports support this investigation revealing that plants are potent anthelmintic agents.

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IMPACT OF APPLYING LOCAL ORGANIC GRANULAR FERTILIZERS FOR SOIL AGROCHEMICAL PROPERTIES IN ECO FARMING

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With increase of the demand and consumption of ecologic production, free from pesticide and other synthetic toxic substances, also solution of the environmental problems, the system of eco agriculture is one of the most developing in the EU and in the world. One of the key requirement for the eco production is soil that maintains agrochemical properties without exhausting or biodegradation processes, also keeps an appropriate level of humus and increases fertility permanently (1,2). Eco production implies using of various fertilizers and soil enhancing measures, meeting special requirements, not of the synthetic origin (1,3). The mentioned problems could be solved by applying already different organic fertilizers in granules that have been already created or are in process. One of the recent technologies in eco farming is local application of organic fertilizers in granules with the seeds of agricultural plants (3). This technology has not been studied broadly, so more detailed studies should be performed.

In order to solve this problem, the Agro ecology Centre at the Academy of Agriculture of Vytautas Magnus University 2018–2019 performed vegetative tests with *Mitscherlich* type plates – plastic pots with the holes on bottom and a plate below. Vegetative plates diameter – 18.0 cm, height– 16 cm. The tests have been performed in a vegetative greenhouse of the Open-Access Centre at the Academy of Agriculture of Vytautas Magnus University. The tests involved two samples of soil with different granular metric content and agrochemical properties. The tests have been performed for four repeated times. Winter wheat have been cultivated in a loamy alkaline soil of a medium humus level, with P and K; when the oats have been cultivated in a sandy and very acidic soil with a low level of humus, P and K. The tests have been performed with three granular organic fertilizers, made from cattle manure compost (Lithuania), bird manure (Holland) and meat bone flour (Lithuania). The fertilizers in the vegetative plate have been inserted locally, observing N_{90} norm. Duration of the vegetative tests – 61 days.

Loamy alkaline soil of a medium humus level, with P and K, increased its alkaline properties influenced by granular organic fertilizers, made from cattle manure compost; and increased its acidic properties, influenced by granular organic fertilizers, made from bird manure and meat bone flour. Locally applied granular organic fertilizers increased the level of humus (organic coal) and mobile P insignificantly. Amount of mobile K increased significantly when applying granular organic fertilizers, made from cattle manure compost, when application of the bird manure fertilizers increased the amount of the general N additionally.

Application of the granular organic fertilizers, made from cattle manure compost, significantly increased pH value, compared to granular organic fertilizers, made from bird manure and meat bone flour, also the level of humus, compared granular organic fertilizers, made from meat bone flour, but had no significant impact on the indexes of mobile P, K and general N. The granular organic fertilizers, made from meat bone flour, had lower impact on the loamy soil acidity, compared to the granular organic fertilizers, made from bird manure; also increased the level of humus and the indexes of mobile P, K insignificantly, and decreased the index of general N insignificantly.

Sandy and very acidic soil with a low level of humus, P and K, decreased its acidic properties influenced by granular organic fertilizers, made from cattle manure compost; and increased the level of humus (organic coal) and mobile P and K, and the general N significantly.

Application of the granular organic fertilizers, made from cattle manure compost, significantly increased alkaline value and mobile K index; compared to granular organic fertilizers, made from bird manure and meat bone flour, also the level of humus and mobile P, compared granular organic fertilizers, made from bird manure, but significantly decreased the index of general N, compared to the granular organic fertilizers, made from meat bone flour.

The granular organic fertilizers, made from meat bone flour, had lower impact on the soil acidity, compared to the granular organic fertilizers, made from bird manure; also increased the level of humus and the indexes of mobile P and general N, and decreased the index of mobile K insignificantly.

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ORGANIC AGRICULTURE IN THE EUROPEAN UNION CONTEXT

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From the natural environment point of view organic production is an extremely important for support of the safe food and maintenance of a life quality in general of the current and future generations. Development of the organic production sector is closely linked with a quantitative assessment of the impact of possible newly installed agricultural environment protection measures on the structural, environmental, economic and social changes of the agricultural sector (2, 3, 4).

Ecological production -a general system of farm management and food production, balancing the best environmental and climate factors practise, a high level of biodiversity, conservation of the natural resources, high animal welfare standards and high production standards, according to the demand. It is aimed at sustainability of the agricultural products and their harmony with economical and ecological functions (5).

Ecological production is intended to contribute to protection of the climate and environment, also to ensure sustainable fertility of soil, protection of biodiversity, significantly contribute in non-toxic environment maintenance, also high standards of animal welfare (prioritizing conduct needs, typical for the different species), and to promote conservation of endangered, rare and/or local species (1).

Development of organic agricultural production in terms of a country promotes environment protection (synthetic pesticides, mineral – synthetic fertilizers, drugs and other chemical substances are not allowed; organic waste is treated and used appropriately; weeds, diseases and pests are controlled by agro technical and other natural methods).

Genetically modified organisms (GMO) and its containing products are also not allowed. To protect and increase soil fertility (to apply as different bio diversified agricultural plants, enriching soil organically). To apply alternation of crops as an agro technical and to use organic fertilizers).