



PROJECT TITLE	PRODUCTION OF ORGANOMINERAL FERTILIZERS FROM BIOGAS FACILITY AND INVESTIGATION OF THEIR AGRONOMIC EFFECTS ON WHEAT
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SUMMARY:

The low organic matter content of our soils and the need to dispose of the wastes that arise due to the increasing population make it necessary to evaluate the produced plant and animal wastes in the most accurate way and to bring them into agriculture. In addition, it is important that the mentioned wastes contribute to the cycle in plant nutrition activities in terms of environmental problems that may occur as a result of the limited resources of phosphorus fertilizer raw materials and the misuse of nutrients such as nitrogen and phosphorus. In this regard, organomineral fertilizers, in which these wastes and mineral fertilizers are used together, have just begun to enter our lives. However, the number of scientific studies on the effectiveness of the nutrients in these fertilizers is limited in our country and in the world, and the current project has been prepared in order to fill the gap at this point to some extent and to help the products in question to be used in the most correct way. There is an increasing number of biogas facilities being built in our country, and the use of organic materials obtained from these facilities in fertilizer production will help us to use the fertilizer raw materials that we depend on foreign sources in the most effective way, by eliminating the waste problem and ensuring the effective use of nutrients. The current project



consists of work packages in which the production of fertilizers, their quality characteristics and their effectiveness in wet-dry conditions in the field are tested. In the first of these work packages, comparative studies with mineral fertilizers will be carried out in order to reveal the quality characteristics of organomineral fertilizers to be produced by Toros Tarım from the organic material from the biogas process residues produced in the biogas facilities in Balıkesir, Gönen and Konya, Meram (Work Package I). In scientifically conducted agronomic studies, it is known that conducting experiments with materials that contain more than one nutrient such as base fertilizers or using different raw materials causes problems in ensuring standardization between applications. Therefore, in the field trials of the project (Work Package II), special fertilizers with a single nutrient (nitrogen or phosphorus) and a minimum of 15% OM specified in the regulation for compound fertilizers will be produced (Work Package I) in order to be used instead of compound organomineral fertilizers. In the project, two-year field trials will be carried out in order to contribute to filling the scientific data gap regarding the possible efficacy of organomineral fertilizers, which are stated to increase the efficiency of use of the nutrients contained in the product-based studies carried out in our country (Work Package II). The said trials will be carried out at Bahri Dağdaş International Agricultural Research Institute in Konya under two different conditions, irrigated and dry. In these studies, single nutrient organomineral fertilizers containing nitrogen and phosphorus will be used and trials will be set up separately for both nutrients. The effectiveness of organomineral fertilizers for each element will be determined separately by applying the recommended nitrogen and phosphorus doses from the bottom, which will be determined by yield and/or soil analysis for both nitrogen and phosphorus, and full and reduced doses of organomineral fertilizers. As a result, in this study, in which the wheat plant is used as a model, the comparative results of the nitrogen and phosphorus applied in different doses in the organomineral forms from the base with the mineral forms will be obtained.

KEY WORDS: Nitrogen, Biogas, Wheat, Phosphorus, Organomineral Fertilizer