***Modeling of agricultural trends using AGMEMOd***

Irena Krisciukaitiene

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*Lithuanian Institute of Agrarian Economics (LAEI), V. Kudirkos st. 18–2, 03105 Vilnius, Lithuania
E-mail:* *irena@laei.lt**, web:* [*www.laei.lt*](http://www.laei.lt)*.*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**ABSTRACT**

The main task of the research – to develop method which can be used to determine agricultural products trends for the long period. In order to realize this goal, EU scientists, including scientists from the Lithuanian Institute of Agrarian Economics, have developed 'Agricultural Member State modelling for the EU and Eastern European countries' (AGMEMOD). AGMEMOD is partial equilibrium mathematical model. In general, the AGMEMOD model for any given country consists of different supply and demand modules for those commodities that represent the majority of the product coverage of the country concerned.

Objectives for the following task are as follow: to use exogenous and endogenous indicators affecting the agricultural sector development, to estimate macroeconomic indicators, the current ongoing agricultural income support policies and the EU single market price and their trends which are the main factors influencing agricultural trends. The AGMEMOD model database itself is composed in part of balance sheets for all commodities with values on beginning stocks, production, imports, human food use, feed use, processing and industrial use, exports and ending stocks.

 The main methods are as follow: traditional, heuristic, graphical and above mentioned econometric partial equilibrium linear programming model.

Results of research: gathered background material prepared by the econometric model, which provides assistance agricultural sector forecasts for 2030. Four agricultural policy scenarios and their influence on the plant (cereals, rapeseed and potatoes) and animal sectors (beef and veal, pork, sheep meat and poultry) are presented. Prognoses of the aggregate balance of the mentioned products are presented for the year 2020. The baseline is presented, then scenario assumptions are discussed, and finally the scenario results are compared and evaluated in comparison to the baseline. Results should be successfully used for the policy makers

**Key words:** agricultural sector, macro indicators, modelling, policy, prices, support.