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Determinants of Intensity of Greenhouse Gas Emission in Lithuanian Agriculture

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Abstract : Agriculture, as one of the human activities, emits a significant amount of greenhouse gas emission and undoubtedly has an impact on climate change. The main gaseous products of agricultural greenhouse gases are carbon dioxide, methane, and nitroxadoxide. The sources and emission of these gases depend on land use, soil, crops, manure, livestock, and energy consumption. One of the indicators showing the agricultural impact on climate change is an intensity of GHG emission and its dynamics. This study analyzed the determinants of an intensity of greenhouse gas emission in Lithuanian agriculture using data decomposition. The research revealed that, although greenhouse gas emission increased during the research period, however, agricultural net value added grew more rapidly, which contributed to a reduction of intensity of greenhouse gas emission in Lithuania between 2000 and 2015. It was identified that during the research period intensity of greenhouse gas emission was mostly increased by the change of the use of nitrogen in agriculture, as compared to the change of the area of agricultural land, and by the change of the number of full-time employees, as compared to the change of net value added. Conversely, the change of energy consumption in agriculture, as compared to the change of the use of nitrogen in agriculture, had a bigger impact in decreasing intensity of greenhouse gas emission.

Keywords : agriculture, determinants of intensity, greenhouse gas emission, intensity
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