

## **THE DEVELOPMENT OF PRODUCTION COSTS IN DAIRY FARMS USING PANEL DATA**

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The development of production costs was studied by using the annual accounting data from dairy farms (specialized in dairying) taking part in Luke profitability bookkeeping for the years 2000—2013. The dataset was formed as panel allowing the possibility to effectively study the change over time. Annual accounting data from each farm was used. Data set was unbalanced since it is voluntary to participate in Luke bookkeeping activities and, on the other hand, some farms had exited the business. During the period 2000—2013 the number of dairy farms has dropped by 57 per cent, but the number of cows by 22 per cent. The production costs of farms grew over the studied period not only due to increased input costs but also due to the fact that the average farm size had grown over time. The unit production costs was studied by using unbalanced panel data with a linear mixed model taking into account farm-level information and time effect. Production costs increase year-to-year. The unit cost decreased as the number of cows increased. Small farms had higher unit cost and also annual variation was larger than medium-sized and large farms.

### **References**

Sinisalo, A. 2015. Production costs of Finnish dairy farms in the 2000s. Proceedings of the 2015 International Conference “ECONOMIC SCIENCE FOR RURAL DEVELOPMENT” No37, Jelgava, LLU ESAF, 23-24 April 2015, pp. 26-34. Available at: <http://www.esaf.llu.lv/journals-and-proceedings>.