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Innovation and agribusiness

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Data governance in the dairy sector in Croatia

Upravljanje podacima u sektoru mlijeka i mliječnih proizvoda u Hrvatskoj

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Abstract

World milk production is increasing rapidly (59 % since 1988), mainly due to the increase in the number of producing animals, with developing countries increasing their share. The increase in productivity per head is limited and focused predominantly on cow milk (81 % of total world milk) in the EU (top producer and exporter in 2020) and the US. The professional skills important for a dairy farm are shifting from manual management of the man-animal-machine interface to management using data from digitized automated (robotic) milking and dairy systems. Our aim was to provide an overview of opportunities and requirements for dairy data governance in Croatia by examining existing examples worldwide. With the transition to digital agriculture, dairy production has great prospects to increase efficiency of milk production through better and sustainable management of feed resources, control of diseases, access to markets and services (e.g. health, finance and training), and planning sustainable production in adequate climate for specific species and breeds. The greatest impact is expected for small dairy farmers in countries such as Croatia. Current regulations ("Code of Conduct on Agricultural Data") and the declaration of cooperation ("A smart and sustainable digital future for European agriculture and rural areas") are voluntary and can only serve as guidelines for formal contractual agreements. However, data sharing contracts generate limited trust and require additional tools to encourage farmers to participate in the data economy, as agribusinesses (i.e. digital experts) differ from farmers (i.e. non-digital experts) in terms of expertise and knowledge. The challenges posed by the increasing availability of farm level data and the collection, aggregation, anonymization, and analysis of data need to be mitigated by a set of national standards that ensure the security, integrity, and efficiency of data storage and access (data governance). Possible solutions emphasize several key points: (i) milk producers own the data generated on their own farms; (ii) data security and transparency are essential, but only together with an opt-out option in the contract; (iii) an optimal method is needed to incentivize farmers to feel comfortable with sharing their data; (iv) the idea of the concept should be adopted by other farm industries and serve as a good guideline for other countries.

Keywords: farm data privacy, data sharing, milk production, cybersecurity practices, national standards

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