

# Information System based on the Internet of Things Technology for the Dairy Farms with Tethered Cows

Pavlo Kulakov<sup>1</sup>[0000-0002-0167-2218], Volodymyr Kucheruk<sup>1</sup>[0000-0002-6422-7779], Tetiana Neskordieva<sup>1</sup>[0000-0003-2474-7697], Olena Semenova<sup>2</sup>[0000-0001-5312-9148], Roman Lishchuk<sup>1</sup>[0000-0002-2051-5365], Serhii Kontseba<sup>1</sup>[0000-0003-4161-5581], Anna Kulakova<sup>3</sup>[0000-0002-2970-7566] and Wiktoria Mankovska<sup>1</sup>[0000-0003-0552-5482]

<sup>1</sup> Uman National University of Horticulture, 1 Institutska Str., Uman, 20305, Ukraine

<sup>2</sup> Vinnytsia National Technical University, 95 Khmelnytske shosse Str., Vinnytsia, 21021, Ukraine

<sup>3</sup> Vasyl' Stus Donetsk National University, 21 600-richchia, Vinnytsia, 21021, Ukraine

kulakovpi@gmail.com, vladimir.kucheruk@gmail.com, tvneskl@gmail.com, semenova.o.o@vntu.edu.ua, roma0lir@gmail.com, kontseba@meta.ua, anna.kulakova1735@gmail.com, viktoriyasergiivna@gmail.com

Correspondent e-mail: kulakovpi@gmail.com

**Abstract.** The paper proposes the information system intended for use on dairy farms with tethered animals, which are equipped with a milking installation with the milk pipeline, and on which individual milk records are carried out by individual milkers. The developed information system, which is an innovative solution, provides for the possibility of remote continuous control of the technological process parameters of cow's milk production, events that occur during the operation of the milking installation are detected and analyzed, violations of the work regulations by the farm staff are detected, and milk accounting is carried out. The information system allows the user at any time, using a smartphone, personal computer or tablet computer, to receive information about the parameters of the technological process of cow's milk production, all information about all events since the installation of the information system stored in the database. The information system can consist of 2, 4 or 8 electronic milk dispensers, which provide control of the dispenser valve system and detection of facts of dilution of milk with water, the vacuum pump control unit, which provides monitoring of the vacuum pressure value and fixing the time intervals of the vacuum pump operation, the washing machine control unit, which provides pre-milking, post-milking and disinfecting washing of the milking installation, the interface unit designed to receive data about events occurring at the milking installation, present them in the required form and transmit this data to the user via the Internet, specialized software that is installed on a Raspberry Pi 4 computer integrated into the interface unit.

**Keywords:** information system, dairy farms, Internet of things, milking installation, tethered cows.

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