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DIGITAL TECHNOLOGIES IN AGRICULTURE

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Abstract: *Technologies used in agriculture include communication networks, sensors, artificial intelligence (AI), big data, cloud computing, and these technologies connect together by the Internet of Things. Each one of these gives something useful to farming like processing, data collection, management, direction, and the ability to make decisions and then implement them. In this paper, we will show a group of important techniques used in agriculture.*

Key words: *digital agriculture, AI, big data, cloud computing, IOT.*

Introduction. Farmers make decisions such as how much fertilizer to apply based on a set of unorganized measurements, experience, but the results aren't noticed until the harvest season. But if they use a digital agriculture system, it will gather data more repeatedly and precisely and combined with external sources (like weather data). The resulting collected data is analyzed and interpreted so the farmer can make more suitable decisions. These decisions can then be quickly implemented with greater reliability through robotics and advanced machinery. Digital agriculture brings together new opportunities, along with the widespread use of advanced, related, and data-intensive computer technologies, also called the industry 4.0 revolution, to agriculture.

Big Data in agriculture. Big Data can help improve forecasting and operational efficiency and lead to improved and timely decision-making. These technologies help analyze a big group of data sources for improved vision. This broadens the analytics and predictive options leading to better outcomes. Big Data technologies can affect an agribusiness in these areas:

- Weather data;
- Improved forecasting of yields and production;
- Better optimized livestock and seeds and new methodologies that improve production and yields;
- Real-time decisions and alerts based on data from fields and equipment;
- Integrated production and business performance data for improved decision making [4].

Cloud computing in agriculture. Cloud computing is the basic infrastructure that

enables intelligent farming implementations such as scalable calculations, software, data access and storage services. Through cloud computing, large-scale data can be stored with low investment cost, and instant access to this data becomes possible.

Cloud computing contributes to the agriculture sector with a wide range of implementations:

- Real-time monitoring and guidance in agricultural production.

- Farm management system.

- Cloud computing enables instantaneous acquisition of information for weather and other climatic conditions that may be needed during the agricultural activities and can be used directly in decision-making through interrelated devices [3].

Internet of Things and Drones in agriculture. By bringing together information from different sensors, IoT has unlimited potential application areas from monitoring of greenhouses to animals and agricultural machinery, specifying the amount of seed, fertilizer, water and soil chemistry, and weather's status. IoT technology enables efficient use of resources by allowing producers to make timely and appropriate decisions with real-time and accurate data. As a result of developments in drone technology, the use of these tools for agricultural purposes has become widespread and it has become possible for farmers to access the images they need instantly or by remote control of some farm practices such as pesticide application at low cost. Drones that specially developed for agricultural applications, has highly-sensitive gauges and imaging systems to detect pests and plant diseases [1, 5].

AI in digital agriculture. Deep learning constitutes the state-of-the-art method for image and language processing with promising results for addressing farming problems, such as weed detection, plant disease diagnosis, crop type classification, and pesticide recommendations. Techniques stemming from deep learning, such as transfer learning or capsule networks will lead future decision-making by taking into account several factors, such as environmental conditions, harvesting practices, financial needs, soil characteristics, or water availability [2].

Conclusion. Digital technologies have the possibility to make agriculture more productive, more regular and to use time and resources more efficiently. This gives farmers more advantages and wider social benefits around the world. It also enables organizations to share information across traditional industry boundaries to open up new, disruptive opportunities. The integration between these technologies will drive agriculture and the economy of any county to new important target positions.

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ФИТОНИМЫ: ОСОБЕННОСТИ ПЕРЕВОДА

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Аннотация: Фитонимы являются неотъемлемой частью любого языка. Корректный перевод фитонимов и фразеологических оборотов с их участием предполагает применение таких лексических приемов, как транслитерация, калькирование, добавление. Для грамотного перевода фитонимов необходимо учитывать цель и стиль переводимого текста.

Ключевые слова: фитонимы, лексические приемы перевода.

С точки зрения лингвистики фитонимы (флоронимы) представляют собой названия растений и фразеологические обороты с их участием [3, 4, 5]. В теории перевода известны приемы, позволяющие передать смысл фитонима в понятной для носителя переводящего (русского) языке форме [1, 2, 6]. Одним из лексических приемов является **транслитерация** – воссоздание фитонима с помощью букв языка перевода. Чаще всего применяется транслитерация латинского названия растения при его отсутствии в местной флоре, вследствие чего в переводящем языке не сформировалось название такого растения. Примером может служить транслитерация названия растения *Анигозантос*, характерного для флоры Австралии. Анигозантос относится к роду травянистых многолетних растений *Anigozanthus* Labil. из семейства Коммелиноцветные (*Commeliales* Dumort.) и имеет местное название *red and green kangaroo paw* (буквальный перевод - кенгуриные лапки) из-за характерной формы соцветий.

Другой лексический прием – **калькирование** – представляет собой замену составных частей (морфем, слов) их лексическим соответствием в языке перевода. Примером может служить перевод названия растения *Кошачья лапка* (*pussytoes*), широко распространенного в субарктической, умеренно влажной и умеренно континентальной климатических зонах Европы, Азии и Северной Америки (Алеутские острова). Кошачья лапка (*Antennaria dioica* (L.) Gaertn.) – многолетнее травянистое растение с войлочными опушенными стеблями, напоминающими благодаря опушению мохнатую лапку кошки.

Еще один лексический прием – **добавление** (расширение) – целесообразно применять для передачи имплицитных (подразумеваемых) элементов смысла оригинала. Например, фитоним *foxbane* (листья погибель), обозначающий растение аконит