

learn" competence while training the teachers-to-be students in the university. Despite the fact that in the field of teacher training, the emphasis is placed still on the development of metasubject competencies, more and more universities are creating educational products for small communities where people have certain interest and motivation. Thus, according to the rector, higher education institutions intend to support more detailed individual educational trajectories for each student. What will the process of building new competencies and literacy of students look like during their studies at the university? Currently, there is an intensive search for new technologies aimed at implementing: various situations during the learning process to help shaping new competencies, continuous pedagogical practice, the method of creating and analyzing pedagogical cases, etc.

In conclusion, I would like to note that the compelling circumstances coming from the mobilization of education in the digital environment only accentuated the problems of lifelong education for teachers and students. But this does not mean that before the pandemic, this concept remained without development and adaptation to trends. The changes that have taken place have emphasized already obvious importance of the continuity of education among teachers, it is necessary to analyze the general patterns of formation and development trends of an information civilization in order to develop a strategy that allows the educational community to determine not only the ways and means of adaptation of a person to new conditions, but also the possibilities of a person's self-realization in a highly automated environment» [2]. The main thing is that the search for the solutions for the problems of professional training of foreign language teachers is purposefully becoming practical, and will not remain a theoretical field for scientific discussions. Specific competencies, new types of literacy and the interest of higher educational institutions in organizing a continuous educational process among students confirms the before-mentioned statement.

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THE INTRODUCTION OF AN OPEN-SOURCE SYSTEM OF AUTOMATED MONITORING IN THE GROWING EXPERIENCE

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Abstract: *In vegetation experiments, it is important to maintain the same parameters for the exclusion of those studied. A free Raspberry Pi-based automated monitoring system has been introduced to monitor and monitor these indicators in a timely manner.*

Key words: *humidity, temperature, Raspberry Pi, ROS, GNU.*

Fruits and vegetables, due to their high content of biologically active compounds, have multiple anti-inflammatory effects, contributing to the reduction of signs of metabolic syndrome, cardiovascular disease and overall mortality according to WHO recommendations. The high level of fresh vegetable and fruit and berry products in the diet is a necessary component of health and life expectancy. The need for off-season provision of fresh fruit and vegetable products against the background of its steadily increasing size and concentration in large cities is a powerful incentive for the development of the traditional greenhouse sector, which uses natural lighting of crops with light bulbs, as well as city-farming, which involves exclusively artificial lighting of plants. Lights made on the basis of light-emitting diodes (LED), are the most promising sources of artificial lighting for crops, despite the high cost. The most popular in the manufacture of phyto lighters are LED with radiation in the red region of the spectrum due to both the high efficiency of this type of LED, and the most important role of red light in the metabolism of the plant organism and, as a result, in the formation of the biochemical composition of plants.

The content of nitrates in the edible part of the crop is the most important and strictly regulated indicator of the quality of vegetable and fruit and berry crops. Fresh fruits and vegetables with high nitrate content can pose a serious risk to human health. It is shown that vegetable products in the human body can come up to 94% of nitrates, with 15 - 21% of this amount comes from leafy vegetables. A number of papers have noted the significant impact of the spectral composition of light on the concentration of nitrates in plant tissues, but the data on the role of red light in the processes of assimilation and nitrate accumulation by plants are contradictory.

In order to identify such dependencies, it is necessary to conduct vegetary experiments in due repeat. As part of the study, the duration of vegetation was 24 days. Plants grow in controlled conditions with a difference in the studied signs - different light and mineral nutrition. This defined the topic of our postgraduate study. In a series of experiments with plants Chinese cabbage was grown on porous tubes on a growing stand, the design of which is described in detail earlier [1]. Each tube was connected to a tank filled with Chesnokov's nutrient solution with a variation of nitrogen lobes in nitrate and ammonium forms. The vegetative stand was equipped with 60×25 cm lamps based on white (4000K) LED with the addition of red (660 nm) SD in different respects. The density of photon flow (PPD) above the plant tops was maintained to be equal (415/-10) mkmol/(m²c), adjusting its value as plants grow at least once every three days. At the same time, however, we must adhere to the uniformity of the other factors. Daily manual measurements, even when made by precision devices, either take a lot of time or have a high workload, which reduces the time of useful research. To reduce time loss and to obtain more aligned data, it makes sense to use automated computer systems. Perhaps the most accessible part of the required monitoring was ROS - this tool allows you to

centrally receive distributed data from various sensors that monitor states of the experiment. In particular, the experiment used this system for continuous collection of data on temperature and humidity.

The project itself was developed on a single-payer computer Raspberry Pi model 3 B+ with arm architecture. The GNU Raspbian image was used as an operating system. With the installation of additional modules from the Github repository `ros_farmer_pc` (https://github.com/houseofbigseals/ros_farmer_pc). For remote monitoring, openVPN server and the appropriate number of customers were raised to remotely monitor and receive data from the computer using ssh protocol.

The data obtained from the sensors was recorded in the SQL database provided by MariaDB. The data itself was collected every second. In the future, the data on humidity and temperature received during the day were averaged. This allowed us to observe the dynamics and see the correlation of green mass and the accumulation of nitrates at fluctuations in temperature and humidity, making the necessary known amendment.

In addition to hardware costs, this system doesn't require additional investments, as all source and compiled code is distributed under open source licenses. This allows mass implementation on computers with architecture amd64, armhf, arm64.

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USE OF ELECTRIC GENERATORS SETS THROUGH TRACTORS IN AGRICULTURE

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Abstract: *The problems of generating sets powered by the tractor for the backup power supply of the agricultural production of small and medium power or energy build up, The comparative characteristics of expenses on diesel power plants and electricity generation systems, when the backup power supply of dairy farms. Justify the need for power plant agriculture.*

Key words: *Agriculture, Backup power supply, Power generator, reduced costs, Damages.*

Introduction

The development of a market economy is increased requirements for uninterrupted power supply of agricultural production. Interruptions in electricity applied to agriculture substantial