EFFECTIVE USE OF ELECTRICITY IN AGRICULTURE AND ITS IMPORTANCE

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Abstract This article describes the efficient use of electricity in agriculture and its importance.

Key words: agricultural electrification, labor productivity, lighting, heating greenhouses, water, pump, station electrification, stationary.

INTRODUCTION

Electricity is derived from the Latin word "electricus" (ancient Greek "ēlektron") and is a set of phenomena resulting from the interaction and orderly movement of charged free electron particles. English naturalist William Hilbert introduced this term into the scientific literature for the first time in 1600 in his book "On Magnet, Magnetic Bodies, and the Great Magnet - About the Earth".

The treatise explains in detail the workings of the magnetic compass and describes some of his experiments on magnetized bodies. In the author's work, he finds out that other substances in nature have the ability to be electrified, that is, to a certain extent, to create a magnetic field. Mainly measuring the consumption of electricity in everyday life and the national economy, as well as measuring the electricity produced in the electricity industry external unit of the amount of energy used for 1 kilowatt-hour is the amount of energy consumed (produced) in 1 hour by an electrical device with a capacity of 1 kilowatt.

(1 kW · h= 10^3 W × 3600 s = 3.6 MJ). Electric utilities measure energy using an electric meter that keeps track of the total amount of electricity delivered to the customer.

Energy is one of the main sectors of every economy and is a solid foundation of economic and technical development. The energy system of Uzbekistan consists of 37 thermal and hydraulic power plants with a total installed capacity of 11.5 mln. kW, 55 billion per year. It has the ability to generate more than 100 kW of electricity. The total length of electric networks of all voltages of the energy system of

Uzbekistan is about 228 thousand km. The total capacity of network transformers is 42.6 MVA. About 65,000 people work in the energy system of the republic. On September 25, 1934, the organizational base of the energy system of Uzbekistan, the "Uzbekenergiya" energy department (now the Ministry of Energy and Electrification of the Republic of Uzbekistan) was established.

Currently, the energy system of Uzbekistan provides energy to more than 20,000 industrial, 100,000 agricultural, 20,000 communal and 3.5 million household consumers. The total electricity consumption in the republic is 46.1 billion. kW is an hour. Hydropower. The total installed capacity of 27 HPPs in the energy system of Uzbekistan is 1420 MW. They have 6331.2 mln. kWh of electricity is being produced.

MAIN PART

As in all sectors of the national economy, the supply and use of electricity is of great importance in agriculture. In agriculture, electricity is mainly used for lighting, heating, that is, electrification of greenhouses, water pumping stations, electrification of stationary and mobile irrigation units, creation of microclimate in hatcheries and livestock farms, etc.The problems of using the quality of initial indicators to determine the effectiveness of agricultural electrification are currently relevant.

The initial indicators for determining the efficiency of agricultural electrification are the following: the production of agricultural products by crops on the land area and plowed land in kind and at the expense of money; production of livestock products in terms of their number according to the type of animals and in terms of money; the number and capacity of electric motors, electrical apparatus, devices by sectors and processes, the value of electrification means (substations, power transmission networks, mechanisms), annual energy consumption by all economic sectors, the value of 1 kW of power, the number of service personnel, labor costs for the production of agricultural products before and after electrification, the availability of electricity to farms, all these characterize the possibilities of electrification of production processes.

For example, if we take the example of animal husbandry: the use of electricity in animal husbandry leads to a sharp reduction in labor costs. The use of electricity can be used to perform a number of activities on the farm, including water supply, advance feeding of animals, milking cows, transportation of various loads, sheep shearing, preliminary processing of milk, incubation, etc. with the help of mechanization. allows to perform.

As long as the construction of electricity transmission networks and distribution and production facilities is solid and guaranteed, not only agriculture, but all sectors of the national economy will be ensured to function effectively. The role of this network in agriculture is very important because, firstly, it ensures continuous operation of water lifting devices in processes related to crop irrigation, and secondly, certain types of cultivated products are kept intact in warehouses and refrigerators. In addition, the power transmission network has its effect in increasing the quality and quantity of products grown in the livestock sector or in the poultry sector in the process of using electricity.

Construction of power plants shortens the payback period for electricity supply and improves the living conditions of rural residents. Fully electrifying agriculture improves the quality of crops and reduces the demand for labor. The use of electric energy in agriculture makes it possible to mechanize crop irrigation, reducing labor costs by 10-20% and operating costs by 10%. The use of electricity for heating and lighting greenhouses, and operating water pumps not only reduces labor costs, but also increases the yield per hectare of cultivated land. A product worth 100-150 soums is created for each soum of electricity.

6% of energy resources and 27% of electricity are consumed in the branches of the agro-industrial complex, which produce more than 32% of the republic's gross domestic product. Although these indicators are several times lower than in developed countries, the energy capacity of product production remains high. There are objective and subjective reasons for this situation.

CONCLUSION

A number of achievements can be achieved as a result of efficient and rational use of electricity in agriculture. Among them: industrial development, electronic machines that provide high productivity instead of manual labor, are of great importance in the acceleration of livestock, farming, horticulture and similar industries. For this reason, it is necessary to pay attention to the following when using electricity:

- development of a single program of the state energy policy aimed at the development of the agrarian sector and coordination of scientific research related to its implementation, organization of a scientific and technical team consisting of mature experts and scientists of the field; - assessment of efficiency of use of energy resources, including electricity, in production, processing and storage of products, creation of methodological bases, and in this regard energy resources and consumers are interrelated in a single system.

To eliminate these and other problems, to achieve an increase in gross production in the sectors of the agro-industrial complex by finding a solution, seed production, breeding development, increasing soil fertility, improving land reclamation and other agrotechnical measures, together with low productivity, high instead of manual labor it is necessary to create efficient, energy-efficient equipment, to accelerate technological processes, and to use electrophysical effects directly in work processes, which ensure the achievement of new technological results. Also, special attention should be paid to the use of non-traditional types of energy, i.e. "Solar energy", in order to increase the weight of energy in product production.

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