THE USE OF SOLAR POWER PLANTS AND HEAT ACCUMULATORS IN THE HEATING SYSTEMS IN GREENHOUSES

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One of the directions of development of energy-saving heating and hot water supply of residential, industrial and agricultural facilities using alternative energy sources is to develop a system of solar energy buildings, which can convert the energy of solar radiation in other forms of energy (e.g. heat) with their subsequent accumulation. The use of solar systems in Ukraine is a promising direction is the use of alternative sources of thermal energy for its accumulation and subsequent use for heating and hot water supply of agro-industrial facilities.

The aim of this work is to develop environmentally friendly, energy-saving heating systems in greenhouses using solar energy and seasonal heat accumulator. In the work there is developed heating system, which is based on the use of a heat accumulator that accumulates the thermal energy of the environment in the summer, selected solar collectors, heating of greenhouses in the short - or long-term period of time. The main advantage of batteries with phase transition - high density accumulated energy, which substantially reduced volume and weight characteristics of the battery of warmth in comparison with the batteries of the capacitive type

In the work there is developed energy-saving heating system greenhouses using solar energy and seasonal heat accumulator of working on phase transformations in the heat-retaining material.

Developed a system for heating greenhouses through the use of solar energy and seasonal heat storage, which makes it possible to reduce considerably the energy consumption to maintain an optimal climate in the greenhouse.

It is shown that the use of heat accumulators with the phase transformation heat accumulating material has significant advantages compared with the use of capacitive thermal batteries. When designing a heating system greenhouses were taken into account the following factors: a) place gelatinize need on the southern slope at an angle from 5 to 30°, which gives an opportunity to significantly increase the amount of absorbed solar energy.