ELECTRO- SOLAR HEATING SYSTEM HOTHOUSES WITH USING OF VACUUM GELIOCOLLECTORES

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Hothouses are one of most consumers of thermal energy, that is why it is expedient to concentrate effort on creation of the energyeffective systems of heating, that does not require the large charges of primary fuel and energy resources and at the same time can provide an optimal microclimate in a cold season.

Forming is in the volume of hothouse and layer of soil of temperature, moist and the gas fields depends on the structural decisions of the systems of the engineering providing of microclimate. To get the high harvests of vegetables it is necessary to support the temperature of 18 − 26 °C on the depth of 0,2 − a 0,3 m, id est in the zone of location chums. Providing of corresponding temperature condition in soil allows to get on 25 − 30 % more early vegetables comparatively with the harvest collected in a hothouse without the subground heating.

In the conditions of swift price on fuel energetic ressourses and deficit of traditional energy sources advance actuality of searches of ways of perfection of the traditional systems of heating and with the use of proceeded in energy - sun, wind sources, obvious.

As a result of processing of statistical meteorological data for ten years in relation to the receipt of solar radiation average annual potential of sunny energy in Ukraine presents 1235 кVt hour/м^2, that is far higher, than, for example, in Germany (1000 kVt · hour /м^2) and Poland (1080 кVt- hour/м^2). Thus, we have good possibilities for the effective use of sunny energy on territory of Ukraine.

In the article the expounded results of development of ekectro-solar of the accumulation system of heating of hothouses with the use of vacuum geliocollectors and results of research of its energy efficiency. Worked out electro-solar accumullation system of hrating of hothouses with using of sunny energy and traditional.

Overhead parts of internal tubes of vacuum geliocollector are accommodated directly in the distributive collector of the system of the aquatic heating and execute the functions of condenser.

The energykeeping hothouse driven to previous work and used for the increase of efficiency offer electro- works on such double-circuit chart - sunny accumulation system of heating of hothouses. Sunny energy is used also for the direct heating of environment of hothouse due to passing of infrared through transparent non-load-bearing constructions and reflections of him inward hothouses from the internal surface of heatcover screens for heating of water that comes in the pipelines of the system of the aquatic heating, and also on technological and domestic necessities.

For reduction of losses of warmth through non-load-bearing constructions heatcover screens are set. Due to the increase of them thermal resistance from 0,25 ($м^2$ -К) /W to 2,20 ($м^2$ -К) /W, and reflection of caloradiance of a sun from soil, large tents and from the internal surface of heatcover screens of loss of warmth diminish on 136 - 195 $W/м^2$.

One of variants of organization of introduction electro- - sunny heating there is the use of electric power not in the clock of spades, but in the clock of favourable payment in tariffs (what for Kyiv such: a zone of "spades" is a 0.65 hrn. after 1 kW, a zone of "semispades" is a 0,372 hrn., "night" zone - 0,09, hrn.).