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COLLECTION AND USE OF YOUR ENERGY DURING DRYING OF AGRICULTURAL PRODUCTS TECHNOLOGY

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Annotation. In the article, it provides opportunities to increase efficiency through the use of thermal energy, drying and collecting. Vacuum-drying agent to the camera using the carrier provides methods of transmission of radiation'liq extra hot. Schemes energy and use it to collect and process developed.

Keywords: energy to gather, drying agricultural products, mode, process, drying facilities, wax, drying device, drain camera, batteries, thermal storage, heat energy, evaporation.

Аннотация. Рассматривается с помотшю эффективности в энергии аккумулирования стате возможност увеличения оф суши. Способ приведен теплового излучения бегиннинг дополнителного васуум-камер с помотшю фазового перехода теплоносителя. Разработан просесс счеме ин аккумулясии энергии И исползования ин тҳе счеме просесс аккумулированной энергии.

Ключевие слова: запас энергии, суши ин селскохозяйственная продуктсия, моде, просесс, суши итемс, wax, сушилное устройство, сушилная самера, стораге баттериес тҳат киск, тепловая энергй, испарение.

INTRODUCTION.

From day to day agricultural products by the population of the country, i.e., the demand for consumption of food products is increasing dramatically. Today, the most basic part of the population of the world daily shopping is one of the primary product intended for consumption as food products. So, for both food products processing enterprises in the country and further improve them to increase the time samardorligini designed for economic processing capacity is required.

For the further improvement of agricultural products processing enterprises in the country, Distinguished by the president of the new reforms is being implemented.

In particular, the decree of the president of the republic of uzbekistan for the year 2019 23 “2020-2030 strategy for the development of agriculture of the republic of uzbekistan”on approval of up-5853-number and the decree of the president of the republic of uzbekistan in the year 2021 February 3 “agricultural knowledge and innovation system and on the further development of modern services,” UP-6159-decree numberare adopted [1].

According to the decree, reproduction and processing of agricultural products aimed at a number of priority tasks for granted:

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In particular, improve your diet, ensuring the safety of food and consumer products, food products in the required amount, which refers to the cultivation of food security, development and implementation of state policy;

agricultural and food network modernization, diversification and sustainable growth capital to support private investment in the area which provided state participation to increase the flow of investment and to reduce the introduction of mechanisms to increase the charm [1] causing as important as the tasks that are mentioned. And finally, today, the rapid development of the economy of our country to ensure the implementation of structural reforms, modernization and diversification of the network have been instrumental in leading [1.2].

LITERATURE AND METHODS OF ANALYSIS

The idea came out from above I can say that today the issue of agricultural products and food products processing korxonlarini a sustainable level of economic efficiency in the development of the economy of our country is one of the priorities rendered.

At the present time the enterprises processing agricultural products and various plants, seeds are the new methods used in the drying of modern processing technologies requires the use of, and this in turn , improve product quality, reduce processing time and processed products improve the qualityto be achieved.

In the drying process, the use of new technologies, in particular agricultural products of vacuum drying forthe camera drying from the use of the device production processand the product will improve the quality of hinders dynamic is achieved. The main purpose of the implementation of the project put forward by the state of the economy ensures the execution of the task before.

Agricultural products, fruits and vegetables, plant seeds, and some of it dryingchun hers and clayey use of open tent used since a long time, that is, lmonththe hers li slowly heated up day and the night cools. This method of daily temperature changes and sunlight doublesthe intensity tar for the area it gives a good effect. Thismethod of drying in the stem of raw-materials from the effects of sunlight protection and decrease the quality of the same product, which allows fotokimyoviy factorreduces the effects of s [at 3.4].

RESULTS AND DISCUSSION

T wax mainlyis used ibbiyotda, butishloq farm products, fruits and vegetables and the seeds of some plant dryingchun also support in this frda liquid energy accumulation of wax in the hard condition is associated with the passage of this while 60 ^{0}c and warmth in mild temperatures allow you to take the heat.

0,88 the volume of wax-0.91 percentage g/cm^3 (15 ^{0}C) c_{18} N_{38} (oktodekan) c_{35} N_{72} (sentatriokontan) from the pm hydrocarbon (alka) is composed.

In the cis countries wax is obtained mainly from oil. Depending on the ratio of the components, 45-65 ^{0}having a melting point of c, 140 ^{0}c and at higher temperatures it burns with atmospheric oxygen is the enzymatic reduction [5-8].

Traditional drying of the deviceat waxto use as a thermal energy storage material is economically efficientis not I. Work howeverth camera inside the vacuum level of 0.7-0.8 atm, which reached low vacuum-quritkichlar camera for heating wax so the use of vacuum technology it gives a good effectbecause this is the level of vacuum in suchyuqboil ing point will decrease.

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A closed system in the first place for heat energy and then will be given the closed system begin to work it through akkumlyatori filled to heat wax inside the drying chamber and the heat energy is transferred to work in process begin.

Of the above method solve the main problem - the uneven effects of external heat sources to provide thisydi.

Q suchuritish technology isanother important requirement of the world - T < 55 ^{0}C at a temperature of quritilayotgan products of biologically active substances of the storageb is left.

As it is known, wood, or gas gelioquritkichlardan used during the case of reason to control the temperature, the heat carrier is extremely overheatingcaused by the composition of the product in the work of bioaktiv substances, the quality of the deteriorationwill lead to. Waxli heat through akkumlyatori heat carrierliquid to the condition of the nest his hard situation allows you to remove excess thermal energy due to the transition.

1 ton wax 50 kw/hour issiqlik has the ability to collect energy, in the present day this 14 750 thousand on the price of electric energy is the sum of (11,66 us dollars) is composed of the same capacity with the product content to 40 liters of distilled water separation is achieved.

Gelioquritgich collected using the sun's heat energy from the night running the drying system units in use alsoat the desert regions of central asia, which is very important for salted water fil'trlash work can also be used.

A high-temperature irradiation needs if bornwithout it, "75" or "85" s brandederazcan also be used init's parafinnikidan 35-88 depending on the composition melting point ^{0}c highis.

In addition, the wax using the heat to collect in use, the economic benefits to get re-used s noterezinlarni it is recommended to apply.

The method of drying in drying of agricultural products is also applied discrete expansions for eigenvalues, that is, of a long time drying off the device from time to timesh (discrete expansions for eigenvalues method) and add the method used in [9].

As it is known, discrete expansions for eigenvalues drying method regularly in the drain is more effective than dried product because it's between the internal and external parts of the same moisture and temperature to explain the xarorat rastlash there are options. Thunga heat from energy use will allow you to continue to drain when the heating mode is switched off (2-picture).

Using the above methodsh, on the day due to be collected, accumulated heat energyfrom I have used in the case of the drying agent, depending on the transport xarorat tashtheheating I (kot feel) up to 4 hours delete spending and other costs at the expense of electrical energy so that you can 35-50 % reduced will have the opportunity to.

The heat transport that 95 ^{0}c to a high temperatureto heating and drying the inside of the camera in the heat of the light rapid spread makes it possible. Also, the wax's low thermal conductivity due to the accumulated energy recovery process is performed.

Akkumlyatori trubaprovodlardagi and heat (and the groove yomkost) heat carrier (transformer oil) to liters, the volume of oil they are able to 180's , whichnash point 350 ^{0}c from transformers oil uses. Slow 450-550 the addition of wax melting point ^{0}C allows to increase.

This policy is known that heat to increase the optimal level of radiation frequencyallows the city. Such frequency heat radiationi quritilayotgan product layer isalmost directly (5-6 cm) will go into.

Quritilayotgan product layer thickness of 0.1-1 cm in size that had to be the reason for having such a frequency, the maximum efficiency is achieved.

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Tarmoqfrom heat radiation is cut off when it is going to decrease quickly, the reason is that the heat carrier (akkumlyator oil) stop the transmission to the camera. For instance, the authors wax's initial mass (600 kg) to reduce the collected energy to work they will offer the necessary part, as a result, has two advantages we are.:

- Soft mode temperature of 40 gallons of water evaporateteeth;
- Each cycle of 24 kw/hour energy and other cost savingsallows you to sh.

As it is known, that would heat transport than any of gelioqurilmasi applied for periodic heating [3]. It should be noted that, collectayo stays the total amount of solar energy, processing enterprises effective because it allows you to increase the temperature change during the day in the open air of the desert and semi-desert zone in conditions of 30-35 ^{0}c. and can be higher.

Solar energy and heat the wax carrier heating of the fluid , and as a result, drying, ca,the merry inside temperature 90 ^{0}c. is raised.

This method is the most important thing in the accumulation of energy, this carrier is drying from the liquid to the solid condition, or on the contrary, occur due to undergo phase.

Gas-liquid phase transition requires a large capacity of energy use and this will limit the practical use of the economic benefits with them. Therefore, the melting waxfrom the wax during the transition phase can be very effective because the use of the energy of a 50 kg 7 kg of water $^{\text{from } 0}$c to heat up enough is known [10].

In practice, such energy accumulation of the value of the transport of heat is useful for heating inflammable materials when in use.

In particular, steppe and mountain conditions in wood, fuel oil and other organic fuel. The transmission of heat is their, and impulsiv the heat carrier is overheating frequently. Therefore, the excess heat thisworld to save through the effectiveness of the use of this type of fuel will increase.

Come, consider the analytical processes shown in the picture, 1 and 2, in conditions that in the picture, the desert, semi-desert, steppe or mountain conditions, which is available in wood or other fuel typesused from use case that heat transport in the cases used for heating.

Akkumlyator the oil that is available for heating the boiler (1-picture), this f250 oil rda ^{0}c is heated. Oil transformers the heat carrier selected asstained reason for this process for the practical value it has. Efficiency (i. f. K.) (1-photo 1-handle) directly from the boiler the sizedepends on the temperature ing, including the oil is heated, its temperature analib will keep.

As this value increases the difference between the boiler-heater of the heat transfer efficiency is increased.

Thus, we consider a specific mode of the suggested scheme;

1-stage energy collection process, the heat carrier (akkumlyator oil) excessively, i.e., T<250 ^{0}C when heated, this tizim (1-photo 1 and 2-handles) heat carrier helps to reduce the temperature of heating.

On the cross you dry M a mass wax is for heating λM, the energy you will need this frda λ - *150 kDj/ kg* , which is equal to a specific coefficient to achieve.

In simple mode a boiler, flat work when it is used, the accumulated heat energy tothe world, that is, excessive overheating does not happen.

During this cycle the boiler effectiveon (k. i. f.), as shown above,

$$\frac{\lambda M}{\tau} \quad (1)$$

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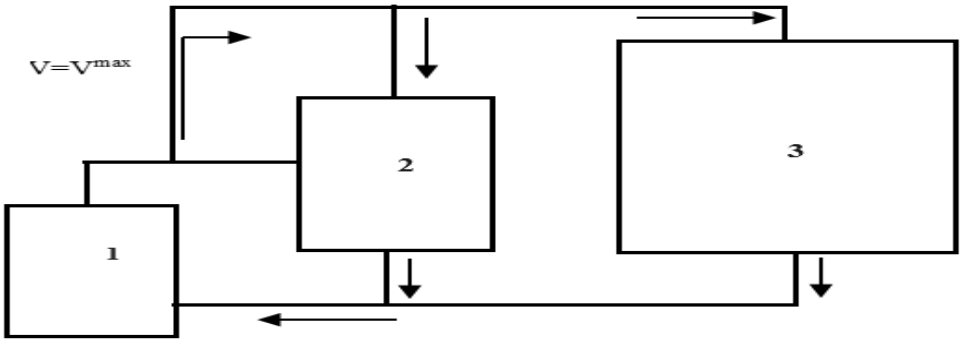
the additional energy increases with the increase of the average power of this frda τ - waxheating time.

Now issi extremecutting b review of the conditionwe are at. In practice, the heat carrier is used as transformer oil with the passage of time may be overheating. In such a case the system (1-picture 2-handle) is not overheating, because the wax to boil 600-650 temperature is ^{0}C, and makes. The heat carrier in the heat and you akkumlyatori groove (1-picture 2-handle) in the absence of the system 250 ^{0}c can be heated to more than (1-picture 3-handle) would be.



Picture-1. Heat energiyadrives of sema to collect process:
1 – heat transport heating boileri (fuel (wood, fuel oil, etc.) or also can be gelios device); 2 – heat energyto collect akkumulator;
3 – vacuum-quritkich camerac.

This wax to the mass of the requirements (1-picture 2-handle) down to the limit shows that the excess heat that should be covered. In special cases this otherg‘ limit heat can be used.

The camera ichksupports (1-picture 3-handle) heat nurlanish is transmitted in the form of. Camera inside of the heat exchange associated with the vacuum energy (1-picture 3-handle) to be created to manage mumkin, shI do at this stage in the dryer, camera passing through the heat into the heat carrier akkumlyatorida to'planmasdan works.

Now, 2-stage process, we will consider the collected energy use, keep the heatovchi of wax that 60 ^{0}c. cooledto beneficially into account, the transition phase due to running of heat energy from the generator (2-picture of 2.3-busy) is the closed systemworks at.

This frda process (2-pic) happens when the boiler is off (2 photos, 1-handle).

Waxfrom the heat which is produced consisting of energy from it.

$MS\,\Delta t$, (2)

This frda, C - comparable to the heat capacity,

Δt - the temperature of the cooling from 250 60 ^{0}c., 190 ^{0}c difference with.

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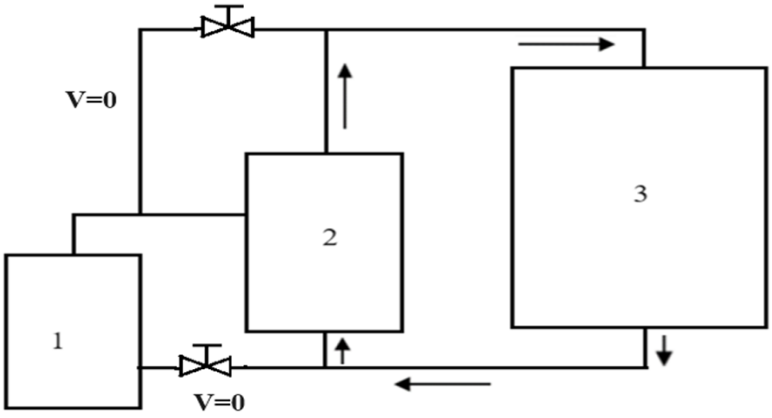

Picture- 2. Accumulated energy from the use of the process scheme:
1 – heat transport heating boileri (fuel (wood, fuel oil, etc.) or also can be gelios device); 2 – heat energyto collect akkumulator;
3 – vacuum-quritkich camerac.

General energiya signals here is equal to

$\lambda M+MS\Delta t=Q$ (3)

SUMMARY

Agricultural mahsulotlarni the seeds of the plant and drainat parafa after usedue to the production of work effectiveness can be seen in the following example.

Agricultural mahsulotlarni plant and seedproductsaccounted for the drying process direction mexanizatsiyalash local raw-materials I use as a source of energytransportation ssiqlik vacuum-drying of the device on the creation research surveysi conducted.

Quritish technical introduction to the development and production of tools, plant seeds, buy collectingsaidafter the technological process allows to prepare in advance of planting and processing from mexanizatsiyalash this in turn seeds, whereas o‘nib out of that percentage increases themto labor with minimal cost and increases the quality of planting.

The transport of heat vacuum drying deviceaccording to the results of the test, including agricultural products and some plant seeds, allow them to drain effectively.

Agricultural mahsulotlarni m some plants and the cultivation ofaydonlariincluding the sex of the processing, drying the activities of the enterprise works to improve the production of technical means necessary for planning mexanizatsiyalash this economically desirable.

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