# SOLAR ENERGY FOR DRYING AGRICULTURAL PRODUCTS

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Wet materials storage plant lose their consumer quality as a result of spontaneous heating, mold, germination and propagation of parasites. Slow down these processes can be artificial or natural removal of moisture from the material - drying.

The most common way is dehydration thermal drying materials, the essence of which is to convert water into steam, which is spent on thermal energy. The method of drying is determined by the scale of production, climatic features of the area, overlooking drying and cost of additional energy.

Heat from the sun combined with the wind used to dry crops for the sake of a few thousand years. This drying outdoors often turned into solar drying zone where drying is zakrytyoyu ventilated area - often in polyethylene, synthetic or glass coating. There are many designs of solar dryers, and each has its advantages and disadvantages.

**The purpose of research** - to analyze existing types heliosusharok offer design and installation, which would ensure the reduction of energy consumption in the preliminary drying of wet material.

**Materials and methods of research**. The effectiveness of the drying process promotes ventilation in the dryer. The movement of air can be both natural and ensured fans.

Dryers with natural ventilation is often referred atmospheric. It rises through the air vents at the bottom, passes through the trays to contain material that dries and turns into the holes at the top of the installation.

In installations of this type of solar energy is absorbed directly by the product and painted black inner wall of the chamber in which the vysushuvanyy material.

Indirect drying installations include solar energy and solar hot-blast chamber or tunnel dryer. In the chamber solar drier air moves through the layer of material placed on mesh trays from the bottom up, while a tunnel dryer drying material trough moves in one direction, and the air through the fan goes counter backwards.

**Results.** The use of solar dryer improves drying efficiency and reduces product loss compared to the drying air. Significantly reduced drying time and improves the quality of the product, including the preservation of vitamins. However heliosusharok utilization rate for agricultural products is generally low. In some cases a year they can be used only a few weeks, and this, of course, does not contribute to high economic performance of their work.

This same lack of characteristic spring greenhouses used only for growing seedlings. Therefore, it seems appropriate after planting in open ground in the summer months, the buildings used for drying crop production.

For drying agricultural products proposed to use the atmospheric drier, based at the spring odnoskatnoyi greenhouse.

The material dried, is on the shelves. Above material at an angle 30 degrees to the horizon is the glass wall. The air in the drying channel enters through the inlet section and goes through the output section.

As shown by previous studies, a drying material to the desired final moisture content (during his stay in the greenhouse) depends on the properties of the material (including its initial moisture content and thickness of the bulk layer) and on the amount of heat that enters the surface of the material in this climate area in a given season. It is believed that it is appropriate to use solar drying if the process lasts from 1 to 3 days.

## Conclutions

The design of atmospheric dryers for drying crop, which in the off-season can also be used for growing seedlings and vegetables. Such multiple use of ustanoky improves economic performance of their work.