

# THE INFLUENCE OF SEASONAL FACTORS ON CUMULATIVE STORAGE OF FUEL CHIPS AND SMALL WOOD WASTE

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**Purpose of exploration.** To determine the year-round effect of temperature and humidity factors on the biological state of fuel chips and other wood waste.

**Results.** Warehouses for inter seasonal storage of chips and small wood waste should provide for volumes of stored material that amount to thousands, and in some cases, dozens of thousands of bulk cubic meters. Naturally, with such large volumes of storage, the construction of closed warehouses will require huge capital expenditures. In this regard, inter-season storage of wood waste should be carried out in open warehouses with minimal costs for their construction. Storing wood chips in the open air in large heaps leads to the creation of completely new conditions inside their volume, which are fundamentally different from the storage conditions for various kinds of round wood assortments and large lumpy waste, which makes it necessary to study.

In the presented study, fuel chips were stored in a prepared compartment with dimensions of 5x0.8 m, height 2.0 m with an open top and with a natural angle of inclination of the side surfaces. Measurements of temperature at a depth of 0.4 m during the summer period showed that during the first 2 weeks the temperature rose to 60°C, during the next 2 weeks it decreased to 40–45 ° C, and then slowly decreased by the end of 4 -month storage period up to 10–15°C. In winter, the temperature was higher by 10-15 °C ambient temperature. The average moisture content of chips in the measurement points during the first month decreased from  $W = 60\%$  to  $W = 40\%$ .

**Conclusions.** 1. Large masses of wood chips in heaps, have the ability to spontaneously increase the temperature and even ignite, which is the result of the vital activity of bacteria and fungi. Therefore, it is necessary to provide technical and technological methods for monitoring the parameters of temperature and its reduction.

2. Studies have shown that with the existing geometrical dimensions of the pile with fuel chips, spontaneous combustion does not occur, the temperature of the heap does not exceed 60°C during the summer period.

3. When storing fuel chips in a heap with the specified geometric dimensions for 4...6 months. wood losses as a result of biological degradation average about 5%.