

Wood seasoning shade

Thermal energy efficiency improvements for tea factories


WATER and
ENERGY
 for **FOOD**

What is a wood seasoning shade?

There is an inverse relationship between the moisture content of wood fuel and its calorific value. The higher the wood fuel moisture content, the lower the calorific value and vice versa. Low wood fuel calorific values translate to higher wood fuel consumption for the same level of output. A low-cost high efficiency fuel wood seasoning shade is critical in reducing the moisture content of fuel wood before it is fed into boilers for thermal energy generation.

What are the main features?

The developed 1000 m³ capacity greenhouse tunnel type wood fuel seasoning shade is constructed of light gauge hollow tubes or lack pipe metal, heavy gauge and UV-treated polythene cover sheets. The seasoning shade is equipped with sensors to monitor environmental parameters such as humidity, wind and temperature. A digital wood moisture meter is provided to track wood seasoning progress. A special Android-based wood seasoning tracking app is used to capture and track the seasoning progress.

What are common uses?

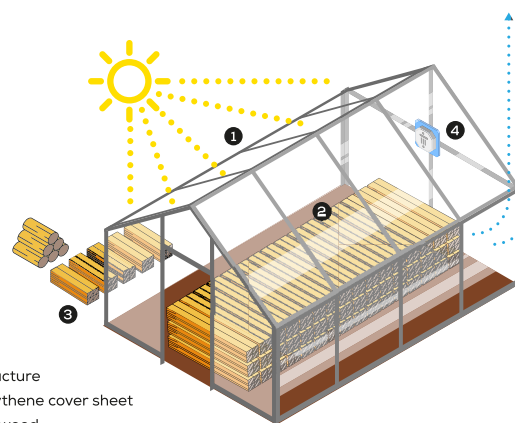
The low-cost, high efficiency fuel wood seasoning shade provides a cheaper and effective alternative towards the improvement of wood fuels energy density and flammability. This leads to utilization of less amount of wood fuel and thus leading to economic and environmental benefits.

Market Development

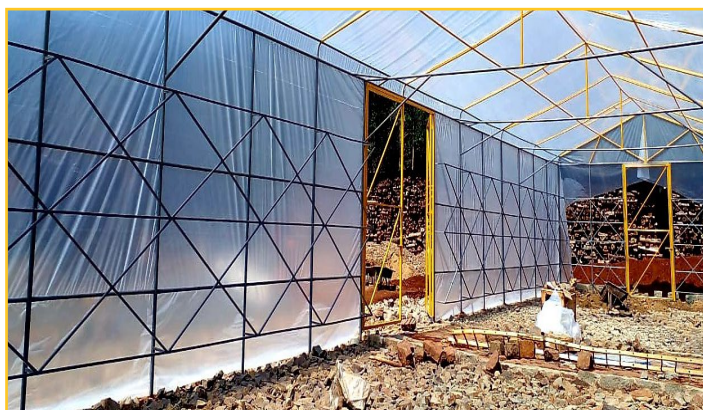
Wood seasoning shades have been in existence for a long time and are commonly used in tea factories so as to reduce their biomass fuel consumption, deforestation, water usage for steam generation and also carbon emissions. However, most of them are expensive, ineffective and serve more as wood storage space. The commercial viability of this newly developed low cost, high efficiency fuel shade is high and can be easily adopted by tea factories that rely on the combustion of wood fuel.

Project overview

Partner:	Dedan Kimathi University of Technology
Type:	Grant Agreement
Focus:	Water and energy resource efficiency improvements in tea processing
Duration:	11.2020-10.2022
Country:	Kenya



- 1 Structure
- 2 Polythene cover sheet
- 3 Firewood
- 4 Sensors

More information: www.we4f.orgContact: macben.makenzi@giz.de