above 50oC when using the solar panel only.

Seasoning period

When using the solar panel only during dry seasons:

- Pine, cypress - 4-4 weeks
- Mahogany-Mvule - 6 weeks
- Other species - 6-8 weeks

A combination of sawdust and solar panels dries timber faster than using a solar panel only.

Pine, cypress - 2 weeks max.
Mahogany, mvule and other species 4 weeks max.

Advantages

Make sure you use properly dried and treated timber and the structure will last for as long as you need it!
It is cheap to construct;
East to operate and quickens timber trying rate.

Why then use wet timber for your construction purposes?
Try it, No regrets!

For more details contact:
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NARO

Forestry Resources Research Institute (FORRI)



Sawdust-Solar Kiln

Timber Seasoning

Forest Products Programme

SAWDUST-SOLAR KILN

Design

This timber seasoning kiln is simple to construct using locally available materials. The walls and roof are made of wood. The roof is also covered with iron sheets to prevent wood-wetting by rain.

- The floor is made of a metallic sheet raised from the ground on a brick or block foundation. The space between the ground and metal sheet allows for in-feed of saw-dust/wood sharings.
- The solar panels made of wood flames and glass-sheets can be detached whenever necessary.
- Thermometers to monitor temperatures are also required.

Specifications

Size:It can be of any size depending on the timber sizes preferably 16ft x 8ft x 10ft (4.8 x 2.4 x 3m)-(L x W x H). The size allows timber of 14 length and a stack of up to 7ft high to fit properly.

Capacity:It can be built to any capacity required. A 16ft x 8ft x 10ft kiln holds about 25m3 of timber (4.8 x 2.4 x 3m).

How it works

- Timber must be properly stack inside to allow free air circulation throughout the stock.
- When using sawdust to generate heat, make sure the fire is just glowing and maintain temperatures between 35-42oC. Temperatures beyond 50oC lead to rapid timber drying causing distortions in the wood.
- When temperatures rearch 50oC the chimneys can be opened to let the hot air out. Otherwise the chimneys must always be kept closed expecially at night.
- The glass panels concentrate the sun rays and direct the hot air inside the kiln.
- There is no fear of temperatures rising