

# INDISPENSABLE FOR THE TRANSPORT AND STORAGE OF FOOD: Wood pallets have greater antibacterial activity than plastic pallets



Institut für Holztechnologie Dresden

When choosing pallets for the transport of food products, the hygiene properties of the various pallet types on the market need to be considered. One must also take into account, that, in a practical context, pallets for transport are normally not new but have been used previously. For the assessment of the microbial load on pallets, this fact must be considered carefully, as only newly produced pallets are free of germs, irrespective of the material from which they are made.

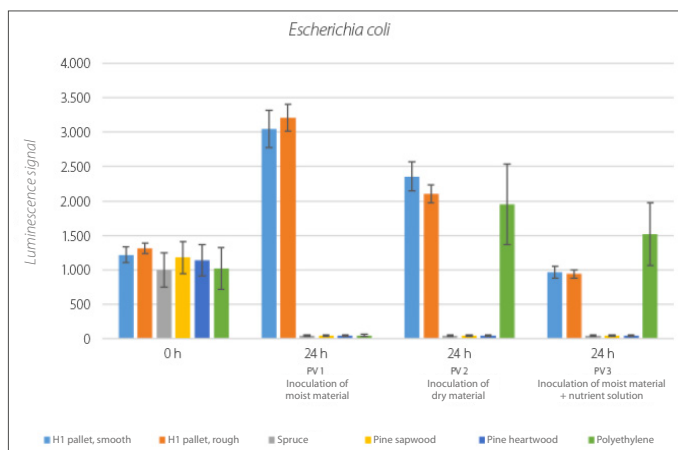
The widely held believe that plastic pallets have generally better hygiene properties, even after repeat use, has been refuted by a detailed study carried out by the Institut für Holztechnologie Dresden IHD.

Between February 2018 and December 2019, IHD performed a number of lab tests and examinations to determine the microbial properties of standard EPAL Euro pallets and of H1 plastic pallets. In this study, pallet models of all common quality categories were examined and tested according to certified test methods. The pallets for lab testing were ordered from a dealer and originate from the commercial EPAL exchange system for load carriers. They all had been used previously at least once and were not cleaned prior to testing. The lab tests were performed with *Escherichia coli* and *Staphylococcus aureus*.

**„On wood, bacteria have a lower survival rate than on plastic.“**

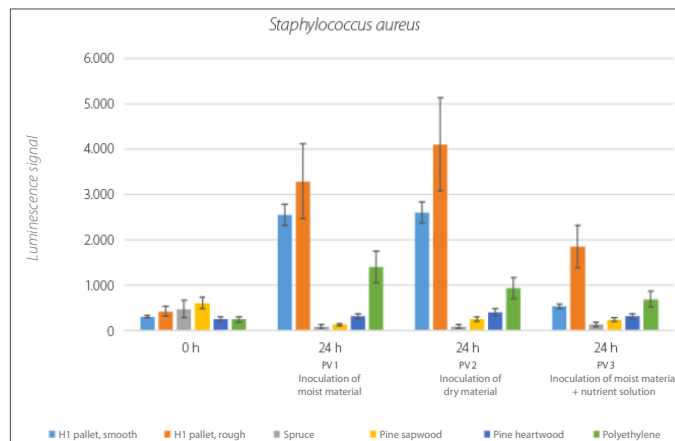
## Findings:

„On wood, bacteria have a lower survival rate than on plastic. It is therefore safe to conclude that wood pallets are suitable for use in the hygiene-sensitive areas of food processing and transport. However, such use requires strict adherence to the hygiene regulations and standards that apply to the production, transport and storage of foodstuff, including continuous control of the pallet quality and regular cleaning.“



Germ activity of *Escherichia coli*

The study refutes the general conception that wood pallets, due to their coarse surfaces, are more susceptible to microbial attack, a point often made by manufacturers of plastic pallets. It shows however clearly that rough sections caused by wear on the surface of plastic pallets, which are a common feature in pre-used pallets, provide an ideal substrate for bacterial growth. In contrast, wood has certain natural hygienic properties that prevent micro-organisms from spreading, as the quantitative results of the study show.



Germ activity of *Staphylococcus aureus*

When used properly as outlined above, wood pallets have an antibacterial activity that is more than thirteen times higher than that of H1 plastic pallets. The main findings of the study have been compiled in the table below.

**„EPAL Euro pallets made from wood can be used without hesitation for the transport and storage of food.“**

The study further reveals that bacteria and moulds detected on pallets can effectively be removed by proper cleaning. This applies not only to plastic pallets, but also to wood pallets. These findings invalidate one of the main arguments against the use of wood pallets brought forth by manufacturers of plastic pallets.

In conclusion, EPAL Euro pallets made from wood, which tend to be relatively cheap, can be used without hesitation for the transport and storage of food where proper hygiene is a key requirement.

■ [hygiene-gb.epal-deutschland.de](http://hygiene-gb.epal-deutschland.de)

## Facts:

- Study on the hygiene properties of wood and plastic pallets, carried out between February 2018 and December 2019
- Study by independent Institut für Holztechnologie Dresden IHD, a renowned global research institute
- Wood pallets can be used without hesitation even in the hygiene-sensitive food industry
- When taking into account the actual load carrier logistics and return systems in place, load carriers made from wood have better hygiene properties
- Bacteria and moulds can be effectively removed by proper cleaning