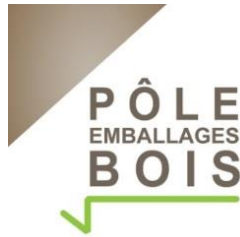


PRESS RELEASE EMABOIS



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CONFIRMATION OF WOOD SUITABLE FOR FOOD CONTACT, XXI century MATERIAL FOR PACKAGING and LOGISTICS

BACKGROUND

In a sharp regulatory environment on direct contact packaging materials with food, French health authorities and agencies rely on the European regulation "ECR 1935-2004 of the European Parliament and Council of October 27th 2004 on materials and articles intended to come into contact with food ", requiring a better understanding of "content - containers" chemical, microbiological, organoleptic migrations, for packaging intended for food contact. The wood is part of the 17 materials approved for food contact. In France, various wood species are permitted for food contact through the decree of November 1945 and the information note of the DGCCRF No. 2012-93 "wood" material.

Wood Packaging Sector is the initiator of the **first French Scientific Consortium**, called EMABOIS which developed a research program to meet the demands of its members and French health authorities i.e. confirmation of the ability of wood for food contact. The aim was to create and promote analytical tools to identify and quantify chemical and microbiological migrations between raw wood and food matrices, for purposes of self-controls and expertise in the Wood packaging sector.

RESULTS

A. Wood contact with food, analytical chemistry :

The study conditions are the single use of raw wood from poplar and pine used in France for the manufacture of wooden packaging, 2 moisture contents, for 2 zones of wood, in direct contact with 3 simulators food replacing real foods at temperatures of 4 °C and 23 °C for 1 hr up to 10 days contacts, reflecting real conditions.

The Global and Specific migrations data, presented below, have incorporated correction factors corresponding to actual areas of contact between the packaging timber and the food prepared in this study.

The main conclusions are :

Global Migration: the total mass of a material sold to a food.

- ✚ More than 4800 tests carried out.
- ✚ The gravimetric method was validated for the migrat which is the set of molecules having migrated from the material to the food simulant.
- ✚ 3 validated advanced techniques to identify molecules migrat (Infrared, LC- ESI-MS, GC -MS).
- ✚ The molecules identified in Global Migration are harmless to the health of the consumer.

Specific migration: the value of the migration of a specific compound.

- ✚ More than 2800 tests carried out.
- ✚ High-tech method TD -GC- MS has been validated for the Specific Migration of volatile molecules from wood.
- ✚ Identification of 146 volatile molecules harmless from poplar and pine.
- ✚ To support the results described above, specific migration measures were carried out in severe migration scenarios. Maximum Specific migration is observed of 0.07 mg / kg of food simulant synonymous with negligible migration.

B. Wood contact with food, microbiology

The study conditions are the single use of Poplar, Pine and Spruce raw woods, 2 moisture contents, with 3 microorganisms identified as dangers to the corresponding three sectors studied and the direct contact of 2 real food products (apple and cheese) reflecting conditions.

The main conclusions are:

- ✚ More than 11,600 tests.
- ✚ An analysis tool validated for the wooden elements of less than 5 mm thick: grinding.
- ✚ An analysis tool validated for the wooden elements of more than 5 mm thick: planing.
- ✚ No pathogen identified on spruce ripening shelves. This result is in favor of the microbiological safety of wood in direct contact with food.
- ✚ The drastic reduction in the number of microorganisms extracted from the wood after 24 hours of contact with poplar, pine and spruce.
- ✚ 99% of microorganisms (bacteria and molds) inoculated on the wood DO NOT MIGRATE to the food.
- ✚ Compared to glass and plastic, wood has the lowest rate of microorganisms transfer to the food.
- ✚ In our framework of study, microbiological analysis tools and analytical chemistry tools have been validated, they are reliable and suitable for wood material. These tools could become part of a wood packaging for contact with food certification process as required by the European and French regulations.
- ✚ At this stage of the study, there is no argument to the non-use of wood in direct contact with food.

INTEREST FOR CONSUMERS

Wood is a natural material, appreciated by consumers. It belongs to the family of renewable materials and can remain available indefinitely for generations if properly planted, as is the case in Europe.

It is certain that with the **depletion of non-renewable materials**, and the first of them, the plastic from fuel, wood will regain its place in a wider economy, particularly in the packaging.

It was therefore essential that an extensive study on the ability of the main types of **wood in contact with food** complements the already widespread knowledge, to develop without delay the sector of wood packaging in the broadest sense (consumer packaging, lightweight packaging, pallets and box-pallets, industrial packaging).

CONSORTIUM EMABOIS SCIENTIFIC STUDY KEY INFORMATION



Packaging sector
1.1 billion euros



The consortium EMABOIS
1st European Consortium
on wooden packaging



€ 1 million budget
primarily funded
by forest wood industry



these are **10 members**,
5 Research Organizations
3 Professional Organizations
1 interprofessional Structure
1 European network of wooden packaging
3 years study
2 thesis students
27 scientists



Scientific dates:
3 wood species
2 moisture contents
3 Food sectors **studied**
More than **19 200 tests** carried out:
> **7 600 tests** in **chemistry**
> **11 600 tests** **microbiology**



5 New validated methods
0 pathogen
146 volatile **molecules harmless for consumers**
44 acts of scientific **valorisation**
4 scientific prizes

Let us communicate :

- ✓ **Raw wood : pine, poplar, spruce is suitable for food contact.**
- ✓ **In microbiology, the hygienic safety of raw wood surface in contact with food is confirmed.**
- ✓ **In analytical chemistry, molecules derived from natural material, raw wood, are harmless to the health of the consumer.** The specific migration of volatile compounds from wood are extremely tiny.
- ✓ The moisture content of the raw wood is a factor to be adapted to **the sensory qualities** expected for food in contact.
- ✓ **Simple, reliable and efficient** wooden surfaces **analytical tools**, in microbiology and chemistry (Global and specific migrations) are validated by scientific robustness.

Wood is ready to replace non-renewable materials for the 21st century