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IUFRO Division 5 Conference
***5.05C Environmental Impacts and
Benefits of wood-based composites***

5.05C

Producing Composite Particleboard from Peanut Husk and Wood-based Materials

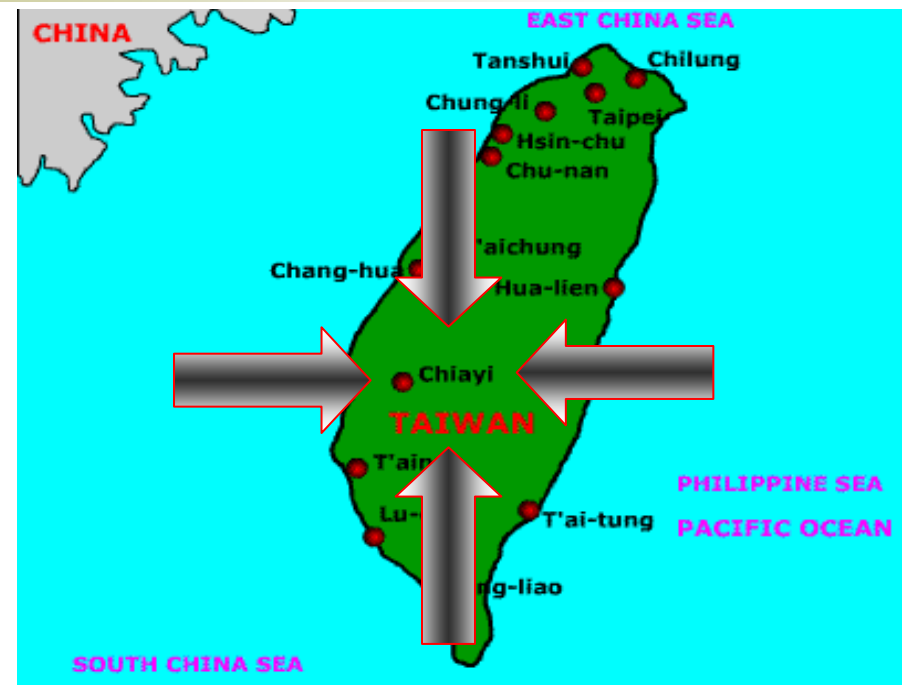
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Aim of research and methods

- The purpose of this study was to strengthen the particleboard made from agricultural residues such as peanut husk by using different wood-based materials.
- The board size, target density and types are 450mm × 450mm × 10mm, 0.65g/cm³, 15 respectively. The binder to be used is phenolic formaldehyde resin (PF).
- The resin content of PF is lower (6%) than commonly used in UF (10%) . Pressing temperature, pressure and time are 190°C, 2.74MPa, 8min respectively.

Aim of research and methods

- As the low bending strength of particleboard made from peanut husk, we used different kinds of wood-based materials such as radiata pine particle, red lauan veneer, bamboo veneer etc. to increase the mechanical properties. Free formaldehyde release of the boards ranged from 0.71 to 1.41mg/L (meets F₃ of CNS 2215-2006).

Results and Conclusions

- The particleboard with PF resin can decrease board TS and free formaldehyde release.
- Two-in-one manufacture can simplify and shorten the process.
- It can increase the aesthetic value and strength of the board after surface treatment of the peanut husk particleboard .

