

Industrial use of rice straw by-product to obtain fireproof materials with thermal insulation properties

Currently, rice straw is managed by swidden (incorporation of the straw resulting from rice harvesting into the soil), controlled burning or its removal. However, these options generate high environmental emissions or are technically and logistically complex. Hence, the need to develop new solutions that contribute to improving the performance, competitiveness and sustainability of rice farms by also valorizing the resulting straw.

The STRAWMAT Operational Group focuses on boosting the economic activity of the rice sector through the valorization of the rice straw by-product as an efficient and sustainable solution for the construction and renovation of buildings. Rice straw will be used as a raw material in the manufacture of various fire-resistant materials with thermal insulation properties that will enable the development of new construction systems for different sectors.

Specifically, the new materials could be applied in new buildings and energy rehabilitation for different sectors such as agriculture, livestock or construction, thus creating a circular bioeconomy project. Therefore, the research also includes the optimization of the methodology and machinery necessary for the collection of straw regardless of its state, thanks to a collection technology that will allow working with wet straw and improving its conditioning and drying, guaranteeing its supply to transform it into a material with added value.



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