

Application of response surface methodology models for dimensional stability of hydrothermally treated Semantan bamboo

ABSTRACT

Semantan bamboo (*Gigantochloa Scortechinii*) was hydrothermally treated in three different buffered media, namely alkaline, neutral and acidic medium. Response surface methodology (RSM) models were developed for the influences of treatment temperature, treatment duration and pH of buffered media on dimensional stability of Semantan bamboo. The models suggested that treatment temperature is the most crucial factor that led to improvement in dimensional stability. Lengthened treatment time also exerted noticeable influence when the temperature remained constant. More dimensionally stable samples were obtained in neutral and alkaline media.

Keyword: Buffered media; Dimensional stability; Hydrothermal treatment; Response surface methodology; Semantan bamboo