A CASE STUDY

International Journal of Agricultural Engineering | Volume 8 | Issue 2 | October, 2015 | 261-264

e ISSN–0976–7223 ■ Visit us : *www.researchjournal.co.in* ■ **DOI: 10.15740/HAS/IJAE/8.2/261-264**

Development and testing of bamboo mat boards

■ **S.P. KURHEKAR, S.K. JAIN AND P.P. CHAVAN**

Received : 11.03.2015; **Accepted :** 30.09.2015

See end of the Paper for authors' affiliation

Correspondence to :

S.P. KURHEKAR
Department of Farm Structures, College of Agricultural Engineering and Technology, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, DAPOLI (M.S.) INDIA

■ **ABSTRACT :** Three varieties of bamboo *viz.*, *Dedrocalamus ritchy* (Manga), *Dendrocalamus stocksii* (Mes) and *Dendrocalamus strictus* (Manvel) were used to prepare bamboo mats were weaved manually and treated with glue. Urea formaldehyde (resin) was used as glue to prepare bamboo mat boards. The resin application was done by dipping. Bamboo mats were dipped for 10 min in urea formaldehyde. 30 kg of resin was required for complete dipping of bamboo mats. Mats were pressed together at 110^0 C temperatures and pressure of 150 kg/cm^2 was applied for 5 min. This is for spreading glue properly. Mats were again pressed at 110^0 C at a pressure of 200 kg/cm^2 for 10 min to from bamboo mat boards. Boards were trimmed to a size of 2.1 m × 1.2 m board of 9 mm, 12 mm and 16 mm thickness were prepared. Bamboo mat board can be prepared from *Dendrocalamus stocksii* (Mes), *Dedrocalamus ritchy* (Manga) and *Dendrocalamus strictus* (Manvel) using urea formaldehyde resin. *Dedrocalamus ritchy* (Manga) was easy to prepare slivers of bamboo. Density of bamboo mat board increased as thickness increases. Maximum density was for *Dendrocalamus stocksii* (Mes). Water absorption bamboo mat board decreased as thickness increases and was minimum for *Dendrocalamus stocksii* (Mes). Tensile strength and compressive strength for bamboo mat board increased as thickness increases. For *Dendrocalamus stocksii* (Mes) maximum tensile strength and maximum compressive strength was 37.83, 43.21 and 48.50 N/mm^2 and 15.75, 19.21 and 26.30N/mm^2 for 9,12 and 16 mm thickness, respectively.

■ **KEY WORDS :** Bamboo mat board, Bamboos

■ **HOW TO CITE THIS PAPER :** Kurhekar, S.P., Jain, S.K. and Chavan, P.P. (2015). Development and testing of bamboo mat boards. *Internat. J. Agric. Engg.*, **8**(2) : 261-264.