

# **UTILIZATION OF CHICKEN FEATHER AND WATER HYACINTH FIBER (*Eichornia crassipes*) AS HELOR (HEAD INSULATOR) ON HEAD PROTECTION PRODUCTS**

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## **ABSTRACT**

Water hyacinth is an aquatic plant that is found in many countries, but the present of many water hyacinth becoming a serious environmental problem especially in Ngawi regency. In addition to water hyacinth, waste of chicken slaughter industry that increase its production activity. Besides that problem, global warming causes environment become uncomfortable because of an increase on temperature. This research aim is to develop helor as a new alternative heat insulator that has the optimum performance by varied combination water hyacinth to chicken feather and structure of filler . This research uses experimental methods through stages of making and characterizing HELOR, testing the effectiveness and effect of its application. The results show HELOR with the ratio water hyacinth to chicken feather (1:4) random has the good performance of insulation with the average temperature system of 36,1°C. HELOR with the best performance gave significant temperature decrease occurred in many caps.

**Keyword :** *Water Hyacinth, Chicken Feather, Insulator*