



**INFLUENCE OF DIFFERENT EXTRACTION METHODS ON
PHYSIOCHEMICAL AND BIOLOGICAL PROPERTIES OF β -GLUCAN
FROM INDIAN BARLEY VARIETIES**

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ABSTRACT

Currently barley has received renewed interest especially due to its high content of glucans. Since the glucan content vary greatly with genotype, four hull less barley variety (K-551, RD-2794, RD-2035 and RD-2552) commonly cultivated in northern plains of India were chosen for study. In this study we isolate β -glucan from different barley cultivars by four different methods includes alkali, acidic, hot water and enzymatic methods. Different extraction methods have significant effect on yield, recovery, functional and biological properties. Highest gum yield (4.85%) was found in samples that were extracted by hot water treatment in all barley cultivars. Although the highest recovery were achieved by enzymatic method (86.7%) followed by hot water extraction method (85.2%). Among all cultivars, RD-2552 identified to have highest glucan content (4.57%) and therefore selected to evaluate the effect of different extraction methods on functional and biological properties . Highest water binding capacity (3.82g/g) and foaming capacity (1.65g/g) was exhibited by hot water extraction method where as enzymatic method result in highest viscosity (49.1cP). The biological properties were determined in term of antioxidant and antimicrobial activities. In this study found extraction method have no significant effect on the antioxidant activity but have significant effect on antimicrobial activity. Among all method, enzymatic extraction methods give highest recovery of glucan and exhibit highest antioxidant and antimicrobial activity.