

## Colour changes in jaggery cubes under modified atmosphere packaging in plastic film packages

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Jaggery cubes made from sugarcane (variety: CoJ64) was stored under modified atmosphere packaging (70%N<sub>2</sub> + 30%CO<sub>2</sub>) at ambient conditions in low density polyethylene (LDPE), polypropylene (PP), polyethylene terephthalate (PET) and laminated aluminium film packages for a period of 210 days to enhance the shelf life and to evaluate the effect of modified atmosphere packaging (MAP) on moisture content, phenols, color, reducing sugars and texture of jaggery. MAP resulted in colour changes in the original yellowish red colour of jaggery under different plastic films. Instead of conventional CIELAB colour space system utilizing only L\*, a\* and b\* values, the colour changes were analyzed as per L\*C\*h\* colour space system using lightness, chroma and hue angle values to evaluate the final hue (colour). On 210<sup>th</sup> day of storage the samples kept in all the films were dark but the intensity of darkness was least for PET film. The best retention of colour was observed for PET film under MAP. Further the sensory and visual analysis of jaggery samples during entire storage period was in line with the results obtained from L\*C\*h\* colour space diagram.

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