

CHARACTERISATION OF ACETYLATED STARCHES FROM DIFFERENT SOURCES AND STUDY ON THE EFFECT OF THEIR INCORPORATION ON THE QUALITY OF *GHILA PITHA*

ABSTRACT

Acetylated waxy rice, low amylose rice and tapioca starches were generated using vinyl acetate as acetylating agent at 4, 6, and 8%. The degree of acetylation for waxy rice starch ranged from 0.567% - 0.680%; for low amylose rice it ranged from 0.63% - 0.796% and for tapioca starch it ranged from 0.604% - 0.680%. Acetylated tapioca starch at 8% level showed the highest sediment (57 mL), solubility (23.21 %) and peak viscosity (9000 cp). However waxy rice starch at 8% level showed the highest WAI (2.19) and WHC (1.19). All these changes were attributed to the introduction of hydrophilic groups at the molecular level of starch due to acetylation. Such acetylated starch when incorporated in *Ghila Pitha*, a traditional sweet of Assam, increased its water retention capabilities and enhanced its textural attributes. *Ghila pitha* incorporated with acetylated waxy rice starch at 8% level gave the least hardness (8325 - 12679 gm) and cohesiveness (0.38 - 0.6) during the storage period of 12 days. Though its hardness and cohesiveness increased during the storage period yet it was lesser than the control and the other test samples. It also gave good sensory attributes measured on a 9 point hedonic scale. Acetylated waxy rice starch and tapioca starch can be used for enhancing the quality and storage period of *Ghila pitha*.

Keywords: Acetylation, WAI, WHC, *Ghila pitha*