ABSTRACT

Acetylation is a chemical modification for estherification, in which hydroxyl groups are replaced with acetyl groups that offers him major stability, changing the physicochemical and functional properties of the starches. Acetylated starches presents 6-10 ° C less at the gelatinization temperature and the maximum peak viscosity is greater than that of a native starch, so are more readily dispersed. The acetylation also increases the clarity and stability of the gels and reduces the retrogradation. Isolate the barley starch and modify his propierties by means of chemical agents: anhydride acetic (AA) and vinyl acetate (VA) and characterize them, have been the aim of this work. With regard to the content of present starch in the grain (60%) the obtained yield was 50 %. The percentage of acetyls reached was between 3 and 6%; with the use of the AA, was 1.6 times times higher than VA and were obtained major incorporation of acetyl groups; the degree of substitution was of 0.143 and 0.240, acording VA or AA was used, respectively. A difference was observed in the average diameter of particle, for the native starch (NS) was of 19µm, while for the starches treated with VA and AA was 22µm and 104µm respectively, due to the introduction of acetyl groups. The morphology of the granules is not affected by the acetylation process. FTIR analysis confirmed the degree of acetylation of starch.

http://www.ijastnet.com/journals/Vol_2_No_4_April_2012/4.pdf

Autores: Francisco Prieto García, Judith Prieto Méndez, María A. Méndez Marzo, Luis A. Bello Pérez, Alma D. Román Gutiérrez*

Revista: International Journal of Applied Science and Technology. Volume: 2, Issue 4, pages 30-39.