



ABSTRACT

Black and Pinto bean starches were physically and chemically modified to investigate the effect of modification on digestibility and physicochemical properties of bean starch. The impact of acetylation, oxidation (ozonation) and annealing on the chemical composition, syneresis, swelling volume, pasting, thermal properties and digestibility of starches was evaluated. The physicochemical and estimated glycemic index (eGI) of the Black and Pinto bean starches treated with ozone were not significantly ($P > 0.05$) different than that of their respective control starches. Annealed starches had improved thermal and pasting properties compared to native starches. Acetylated starches presented reduced syneresis, good pasting properties and lower eGI. Also, all modified starches had increased levels of resistant starch (RS). Therefore, the digestibility and physicochemical properties of bean starch were affected by the type of modification but there were no significant ($P > 0.05$) differences between the Black and Pinto bean starches.

<http://www.sciencedirect.com/science/article/pii/S0308814612005614>

CEPROBI - IPN

Autores: Senay Simsek*, Maribel Ovando-Martínez, Kristin Whitney, Luis A. Bello-Pérez.

Revista: Food Chemistry. Volume: 134. Issue: 4, Pages: 1796-1803.