EFFECT OF PRESSURED LIQUID EXTRACTION WITH WATER ON HYDROLYSIS OF BRAZILIAN GINSENG *PFAFFIA GLOMERATA*

Fiorella P. Cardenas-Toro, Diego T. Santos, Sylvia C. Alcázar-Alay, M. Angela A. Meireles. School of Food Engineering, University of Campinas - UNICAMP, Rua Monteiro Lobato 80, 13083-862 Campinas, São Paulo, Brazil

Brazilian ginseng *Pfaffia glomerata* is used in the form of phytomedicine and supplementary foods because of their numberless effects on stress and immunological system. These effects are related to its composition of phytochemicals, among them saponins, compounds founded in ginseng roots. Separation process of these bioactive compounds, as pressure liquid extraction, leads a residue considered such as biomass. This biomass contents a high percent of carbohydrates and its hydrolysis produces added-value compounds, as monosaccharides and oligosaccharides, which are interesting for chemical industry. In addition, the extraction process will modify the physical structure of ginseng roots, increasing its superficial area available for hydrolysis, resulting on high yield of total sugar. In this work, the hydrolysis of ginseng roots and ginseng bagasse after pressured liquid extraction was studied in function of total reducing sugars and reducing sugars formed, and the effect of pressured liquid extraction in ginseng structure was observed by scanning electron microscopy. Brazilian ginseng roots were conditioned prior reaction. Brazilian ginseng bagasses were obtained after pressured liquid extraction with water at 60°C e 12 MPa. The reactions were performed at 100°C, relation solid/acid solution of 1:20 and HCl concentration solution of 0.5%, 2.5% and 5%. Samples were taken at 10, 20, 30, 45 and 60 minutes. Kinetic curves showed that total reducing sugar yield were highest for ginseng bagasse at all conditions (4, 5 and 12 g glucose/100 g of dried ginseng, respectively). Scanning electron microscopy showed that ginseng structure was modified after pressured liquid extraction.