“Alperujo” (AL) is the semisolid residue from the olive oil production by two phase centrifugation system. In San Juan (Argentina), about 40,000 Tons of AL are annually produced. AL is a highly polluting waste (COD: 230-240 g/Kg and BOD: 90 g/Kg, approximately), and its treatment and disposal is until now a problem. AL contains mineral and organic matter, including tannins, polyphenols, polyalcohols, pectins, sugars and lipids. Some of these compounds serve as nutrients for microorganisms, which constitutes a way to valorize the AL. Carbohydrate content in AL is about 20-25% (wet matter) and approximately 70% of it is in cellulose and hemicelluloses units. To increase the soluble carbohydrate content, i.e. its bioavailability in order to obtain bioethanol as final product, the biomass is usually subjected to physical, chemical, biological or electrical pre-treatments. Chemical pretreatment using diluted sulphuric acid is recognized as advantageous because of its easy implementation, low cost and high efficiency; however, it has not been clearly determined the importance of the conditions that may affect the efficacy of this treatment. This work reports the results of the application of the Plackett-Burman method to determine the relevance of following variables: sulphuric acid concentration, treatment time, temperature, liquid/solid ratio, pressure and stirring. Usual ranges for variables were determined from literature and eight experiences were carried out, combining these variables according to the Plackett-Burman methodology. As response, the sugar content at the end of each treatment was quantified. Results show that sulphuric acid concentration and treatment temperature are the most relevant variables (confidence level 99%) for the increase of the sugars content in AL. The results are encouraging and optimization studies of the relevant variables are in progress.