عنوان مقاله:

Study of Membrane Fouling Effects in Sour-Cherry Juice Filtration & Clarification

محل انتشار:

شانزدهمین کنگره ملی مهندسی شیمی ایران (سال: 1397)

تعداد صفحات اصل مقاله: 5

نویسندگان:

Mosayeb Mohammadi - *Faculty of Chemical Engineering, Islamic Azad University-Science & Research Branch, Tehran-Iran*

Farshid Pajoum Shariati - *Faculty of Chemical Engineering, Islamic Azad University-Science & Research Branch, Tehran-Iran*

Babak Bonakdarpour - *Faculty of Chemical Engineering, Amirkabir University of Technology (Polytechnic), Tehran-Iran*

Seyed Ali Vaziri - *Faculty of Chemical Engineering, Islamic Azad University-Science & Research Branch, Tehran-Iran*

خلاصه مقاله:

The processing of a cloudy juice for production of clarified product has been always a challenging step for every factory and it has been under constant development for a new and genuine ways to reduce the difficulties at this stage. In this study, the clarification of a cloudy Sour-Cherry juice (with & without Enzymatic/Coagulant treatment) has been examined with membrane (MF) separation technology. In LMH of 25, by addition of Enzyme and Coagulant agent, system total resistance will be decreased (up to 50%). This reduction of resistance has effect on fluid resistance (RF) due to reduction of viscosity of process fluid. On the other hand, Cake layer formation will be intensifying due to hydrolysis of small substances in fluid (by enzymatic reactions) and formation of bigger Colloids (from 64% to 75%). Hence, the cake resistance effect will increase and have higher impact on the system. In LMH of 25, the Fluid resistance (RF) is the main cause of the system fouling which with increase of system flow rate and subsequently the increase of LMHs (up to 43 & 51), the dominant factor of the system fouling will be Cake formation & Resistance of Cake (RC). The Physical-Chemical parameters of the juices have been analyzed before and after .filtration steps

کلمات کلیدی:

Juice, Sour-Cherry, Membrane, Micro-Filtration, Filtration Resistance, Clarification, Fouling, Cake Formation