



Fouling Mechanism in Ultrafiltration of Vegetable Oil

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Abstract:

It's difficult to create affordable vegetable oil without dangerous by-products. Chemical treatment, chemical-free separation, and membrane technology are choices. Ultrafiltration requires less pressure besides heat. In this study, a hydrophobic polypropylene membrane was second-hand to ultrafilter palm kernel oil. The Hydrophobic Polypropylene worsens membrane fouling, reducing permeate flux. Chemicals foul a membrane's surface or pores. Fouling occurred after ultra-filtering palm kernel oil via a hydrophobic polypropylene crust. Investigating the cause prevented a recurrence. Fouling sources include transmembrane pressure besides feed temperature. 50 minutes of ultrafiltration caused cake formation. Feed temperature and transmembrane pressure didn't affect fouling.

Keywords:

Fouling, Membrane, Ultrafiltration, Vegetable Oil.