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Abstract	<p>This research focuses on the integrated recovery of rhamnogalacturonan-I (RG-I) pectin from sugar beet pulp (SBP). First, the extraction of RG-I pectin through sequential ultrasound-assisted extraction (UAE) and microwave-assisted extraction (MAE) was assessed. Optimization using a response surface methodology identified the optimal conditions as initial pH 4, 10 minutes of UAE, and 157 °C for MAE, achieving a 66.0 % recovery of pectooligosaccharides (POS). Additionally, purification through continuous diafiltration and concentration via ultrafiltration of the POS using membranes with different molecular weight cut-offs (MWCO) was explored. In contrast to previous research using discontinuous diafiltration, the use of continuous diafiltration allowed a decrease in the extract viscosity and obtained higher yields using a higher MWCO membrane. The refined RG-I pectin solids exhibited a high global yield (39 – 40 g pectin/100 g SBP), and high-methoxyl characteristics, as well as purity levels (70 – 80 %) similar to commercial prebiotics.</p>
Keywords	<p>Pectooligosaccharides;</p> <p>Box-Behnken design;</p> <p>Green extraction;</p> <p>ultrafiltration;</p> <p>diafiltration</p>