Title (en)
  Sugar beet membrane filtration process

Title (de)
  Membranfiltrierungsverfahren für Zuckerrüben

Title (fr)
  Procédé de filtration sur membrane de betterave à sucre

Publication
  EP 1788100 A2 20070523 (EN)

Application
  EP 07003542 A 20000815

Priority
  • EP 00957444 A 20000815
  • US 37602699 A 19990819
  • US 61883100 A 20000718
  • US 61841600 A 20000718

Abstract (en)
  The present invention relates to a process for producing sugar from beets, comprising the steps of: (e) slicing sugar beets into cossettes and obtaining a sucrose-containing feed juice therefrom by diffusion, wherein the feed juice also comprises ash and invert sugars; (f) filtering the sucrose-containing feed juice through a first ultrafiltration membrane that has a first molecular weight cutoff of at least about 2,000 daltons and a pore size no greater than about 0.1 microns, thereby producing a first ultrafiltration permeate and a first ultrafiltration retentate; (g) filtering the first ultrafiltration permeate through a second ultrafiltration membrane that has a second molecular weight cutoff that is lower than the first molecular weight cutoff and is between about 500-5,000 daltons; thereby producing a second ultrafiltration permeate and a second ultrafiltration retentate; and (h) filtering the second ultrafiltration permeate through a nanofiltration membrane; thereby producing a nanofiltration permeate and a nanofiltration retentate, wherein the nanofiltration retentate has a higher concentration of sucrose on a dry solids basis than the feed juice in step (c), and wherein the nanofiltration permeate comprises at least about 30% of the ash and at least about 30% by weight of the invert sugars present in the second ultrafiltration permeate.

IPC 8 full level
  C13B 10/00 (2011.01); **C13B 20/00** (2011.01); **C13B 20/14** (2011.01); **C13B 20/16** (2011.01)

CPC (source: EP)
  C13B 10/00 (2013.01); **C13B 20/00** (2013.01); **C13B 20/165** (2013.01)

Cited by
  US9587285B2

Designated contracting state (EPC)
  AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
  WO 0114594 A2 20010301; **WO 0114594 A3 20011206**; AT E358187 T1 20070415; AU 6906300 A 20010319; CZ 2002570 A3 20021113; DE 60034127 D1 20070510; DE 60034127 T2 20071206; EP 1204767 A2 20020515; EP 1204767 B1 20070328; EP 1788099 A2 20070523; EP 1788100 A2 20070523; HU P0204353 A2 20030528; HU P0204353 A3 20041228; PL 353772 A1 20031201; SK 3772002 A3 20021106

DOCDB simple family (application)
  US 0022301 W 20000815; AT 00957444 T 20000815; AU 6906300 A 20000815; CZ 2002570 A 20000815; DE 60034127 T 20000815; EP 00957444 A 20000815; EP 07003541 A 20000815; EP 07003542 A 20000815; HU P0204353 A 20000815; PL 35377200 A 20000815; SK 3772002 A 20000815