Indrapraja, E., 2007, Pembuatan Membran Selulosa Diasetat Dari Serat Daun Nanas (*Ananas comosus*). Skripsi ini di bawah bimbingan Drs. Tokok Adiarto, MSi dan Siti Wafiroh S.Si, M.Si. Jurusan Kimia, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Airlangga, Surabaya.

ABSTRAK

Teknologi membran saat ini berkembang dengan pesat karena mempunyai banyak keunggulan dalam proses pemisahan, pemurnian dan pemekatan. Pada penelitian ini dilakukan pembuatan membran selulosa diasetat dari serat daun nanas (*Ananas comosus*). Penelitian ini bertujuan untuk mengetahui komposisi bahan pembuat membran dan pengaruh waktu penguapan pelarut terhadap kinerja membran. Proses pembuatan membran dengan metode inversi fasa. Membran dibuat dari selulosa diasetat (polimer), aseton (pelarut) dan formamida (aditif) dengan variasi komposisi formamida 7%, 8%, 9% dan 10% dengan jumlah selulosa diasetat sama. Kemudian dilakukan variasi waktu penguapan pelarut dengan waktu 20 detik, 25 detik, 30 detik dan 35 detik. Membran yang diperoleh dikarakterisasi yang meliputi : ketebalan membran, pengukuran fluks dan rejeksi, uji tarik serta analisa morfologi membran dalam kondisi optimum dengan SEM. Membran dengan kinerja yang optimum memiliki komposisi selulosa diasetat 14%; formamida 8%; aseton 78% dan waktu penguapan 25 detik. Hasil karakterisasi membran optimum terhadap larutan umpan air sumur yaitu koefisien rejeksi 98,85% ; fluks 52,135 $L.m^{-2}.Jam^{-1}$; ketebalan membran 0,034 mm ; nilai *stress* 0,293 $N.cm^{-2}$. Variasi komposisi bahan pembuat membran dan waktu penguapan pelarut dapat mempengaruhi kinerja membran selulosa diasetat.

Kata kunci : *Ananas comosus*, selulosa diasetat, membran selulosa diasetat, rejeksi, waktu penguapan.

Indrapraja, E., 2007, The Production of Cellulose Diacetate Membrane From The Fibre of Pineapple Leaf (*Ananas comosus*). This Script below supervising of Drs. Tokok Adiarto, M.Si. And Siti Wafiroh S.Si, M.Si. Department of Chemistry. Faculty and Mathematics and Natural Sciences, Airlangga University, Surabaya.

ABSTRACT

Nowadays, membrane technology has been expanded very fast because of having so much excellence in dissociation, purification and condensation. In this research there was a process which made cellulose diacetate membrane from pineapple fibre. The purpose of this research is to knowing the materials composition and the time evaporation solvent influence of membrane performance. The membrane was produced from cellulose diacetate (polymer), acetone (solvent) and formamida (additive) by the inversion phase methods. The formamida was made into 7%, 8%, 9% and 10% as the variation composition, whereas cellulose diacetate was made into the same composition. Then it had variation time evaporation solvent including 20 second, 25 second, 30 second and 35 second. The membrane obtained was characterized by the membrane thickness, flux and rejection measurement, the stretching test and also analysed the optimum membrane morphology in a condition by SEM. Membrane with the optimum performance, having 14% (w/w) to cellulose diacetate; 8% (w/w) to formamida; 78% (w/w) to acetone composition and 25 second evaporation time. The membrane characterization result having optimum to well water is 98,85% to rejection coefficient; 52,135 $L.m^{-2}.H^{-1}$ to flux; 0,034 mm to membrane thickness ; 0,293 $N.Cm^{-2}$ to stressing point. The composition variation of cellulose diacetate membrane ingredient and the solvent evaporation time could influence the cellulose diacetate membrane performance.

Keyword : *Ananas comosus*, cellulose diacetate, cellulose diacetate membrane, rejects, evaporation time.