

## **ABSTRAK**

### **PRA RANCANGAN PABRIK DEKSTROSA DARI *MANIHOT UTILISSIMA* DENGAN PROSES HIDROLISIS ENZIMATIS KAPASITAS PRODUKSI 60.000 TON/TAHUN**

**Oleh**

**CHINDY FERRYANDY HB**

Pabrik Dekstrosa berbahan baku *manihot utilissima*, akan didirikan di Lampung Tengah, Lampung. Pabrik ini berdiri dengan mempertimbangkan ketersediaan bahan baku, sarana transportasi yang memadai, tenaga kerja yang mudah didapatkan dan kondisi lingkungan.

Pabrik direncanakan memproduksi dekstrosa sebanyak 60.000 ton/tahun, dengan waktu operasi 24 jam/hari, 330 hari/tahun. Bahan baku yang digunakan adalah *manihot utilissima* sebanyak 9.166,194 kg/jam.

Penyediaan kebutuhan utilitas pabrik dektrosa berupa: pengadaan air, pengadaan *steam*, pengadaan listrik, kebutuhan bahan bakar, dan pengadaan udara kering.

Bentuk perusahaan adalah Perseroan Terbatas (PT) menggunakan struktur organisasi *line* dan *staff* dengan jumlah karyawan sebanyak 186 orang.

Dari analisis ekonomi diperoleh:

<i>Fixed Capital Investment</i>	(FCI)	= Rp 270.448.615.244
<i>Working Capital Investment</i>	(WCI)	= Rp 33.426.233.345
<i>Total Capital Investment</i>	(TCI)	= Rp 303.874.848.589
<i>Break Even Point</i>	(BEP)	= 36,22 %
<i>Shut Down Point</i>	(SDP)	= 15,64 %
<i>Pay Out Time before taxes</i>	(POT) <sub>b</sub>	= 1,87 years
<i>Pay Out Time after taxes</i>	(POT) <sub>a</sub>	= 2,23 years
<i>Return on Investment before taxes</i>	(ROI) <sub>b</sub>	= 38,76 %
<i>Return on Investment after taxes</i>	(ROI) <sub>a</sub>	= 31,01 %
<i>Discounted cash flow</i>	(DCF)	= 38,66 %

Mempertimbangkan paparan di atas, sudah selayaknya pendirian pabrik dekstrosa ini dikaji lebih lanjut, karena merupakan pabrik yang menguntungkan dan mempunyai masa depan yang baik.

## **ABSTRACT**

### **MANUFACTURE OF DEKSTROSE FROM *MANIHOT UTILISSIMA* WITH THE ENZYMATIC HYDROLYSIS PROCESS CAPACITY 60.000 TONS/YEAR (Design Adsorber Ionic Ca -302 (AD Ca-302 A/B))**

**By**

**CHINDY FERRYANDY HB**

*Dekstrose* plant produced by reacting *manihot utilissima* was plan to be in industrial plant in the region of Center Lampung in Lampung Province. Plant was established by considering the availability of raw materials, transportation facilities, readily available labor and environmental conditions.

Plant's production capacity is planned 60,000 tons / year, with operating time of 24 hours / day and 330 working days in a year. The raw materials used are much *manihot utilissima* 9.166,194 kg / hr.

Provision of utility plant needs a treatment system and water supply, steam supply systems, instrument air supply systems, and power generation systems.

Labor needed as many as 186 people with a business entity form Limited Liability Company (PT) which is headed by a Director who is assisted by the Director of Production and Director of Finance with line and staff organizational structure.

From the economic analysis is obtained:

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Consider the summary above, it is proper establishment of dekstrose plant to studied further, because the plant is profitable and has good prospects.