

LAMPIRAN

Lampiran 1. Perhitungan

A. Pembuatan larutan NaOH 25% 1000 ml

$$\begin{aligned}\% &= \frac{\text{massa}}{V \text{ (ml)}} \times 100\% \\ 25\% &= \frac{\text{massa (gram)}}{1000 \text{ ml}} \times 100\% \\ \text{massa} &= \frac{25 \times 100 \text{ ml}}{100} \\ &= 250 \text{ gram}\end{aligned}$$

B. Pembuatan larutan Asam Asetat 3% 500 ml

$$\begin{aligned}V_1 \cdot M_1 &= V_2 \cdot M_2 \\ V_1 \cdot 100\% &= 500 \text{ ml} \cdot 3\% \\ V_1 &= \frac{500 \text{ ml} \times 3\%}{100\%} \\ &= 15 \text{ ml}\end{aligned}$$

C. Perhitungan Uji Daya Serap Air

1. Sampel K

$$\begin{aligned}SA\% &= \frac{W - W_o}{W_o} \times 100\% \\ SA\% &= \frac{0,2473 \text{ gram} - 0,1398 \text{ gram}}{0,1398 \text{ gram}} \times 100\% \\ SA\% &= 76,89\%\end{aligned}$$

2. Sampel A

$$\begin{aligned}SA\% &= \frac{W - W_o}{W_o} \times 100\% \\ SA\% &= \frac{0,4162 \text{ gram} - 0,1704 \text{ gram}}{0,1704 \text{ gram}} \times 100\% \\ SA\% &= 144,24\%\end{aligned}$$

3. Sampel B

$$\begin{aligned}SA\% &= \frac{W - W_o}{W_o} \times 100\% \\ SA\% &= \frac{0,4718 \text{ gram} - 0,1902 \text{ gram}}{0,1902 \text{ gram}} \times 100\% \\ SA\% &= 148,05\%\end{aligned}$$

4. Sampel C

$$\begin{aligned}SA\% &= \frac{W - W_o}{W_o} \times 100\% \\ SA\% &= \frac{0,3207 \text{ gram} - 0,1424 \text{ gram}}{0,1424 \text{ gram}} \times 100\% \\ SA\% &= 125,21\%\end{aligned}$$

Lampiran 2. Gambar Kegiatan dan Pengukuran



Pengupasan



pencucian



penghalusan



penyaringan



Pengendapan



Pengeringan

Ekstraksi Pati Jagung



Penimbangan



Perendaman
(Isopropil Alkohol)



Penyaringan &
Penetralan



Perendaman
(NaOH 25%)

Perendaman
(Asam Asetat 3%)

Hidrolisis
(Aquadess)

Isolasi *Pulp* Selulosa Limbah Kertas HVS



Penimbangan



Pencampuran



Pelarutan



Pencampuran



Pengadukan



Pencetakan

Pembuatan Film Bioplastik



Uji Kuat Tarik
&
%Elongasi



Uji Daya Serap Air



Uji Degradabilitas

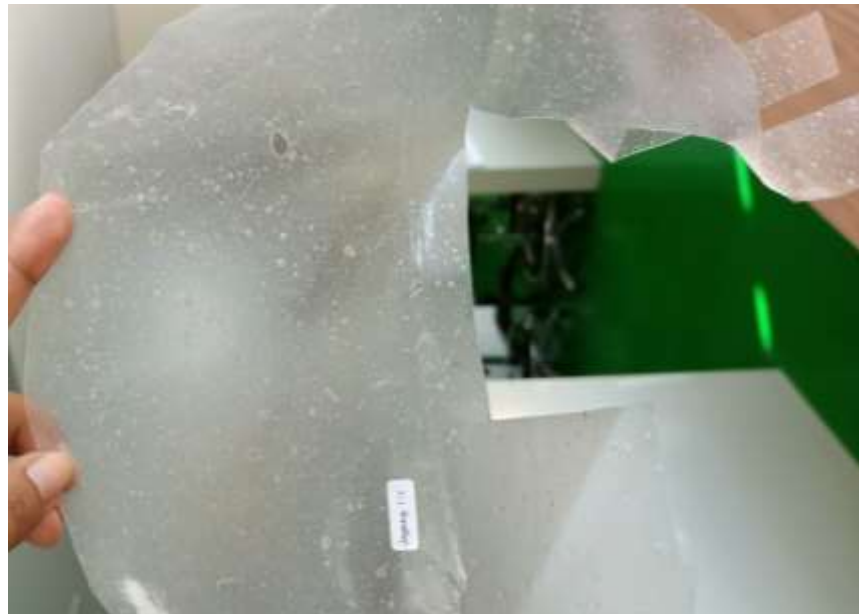
Uji Karakteristik Bioplastik

Lampiran 3. Gambar Hasil Pengujian Bioplastik

A. Hasil Pembuatan Bioplastik



Sampel K Selulosa : Kitosan (0 : 0) gram



Sampel A Selulosa : Kitosan (1 : 1) gram

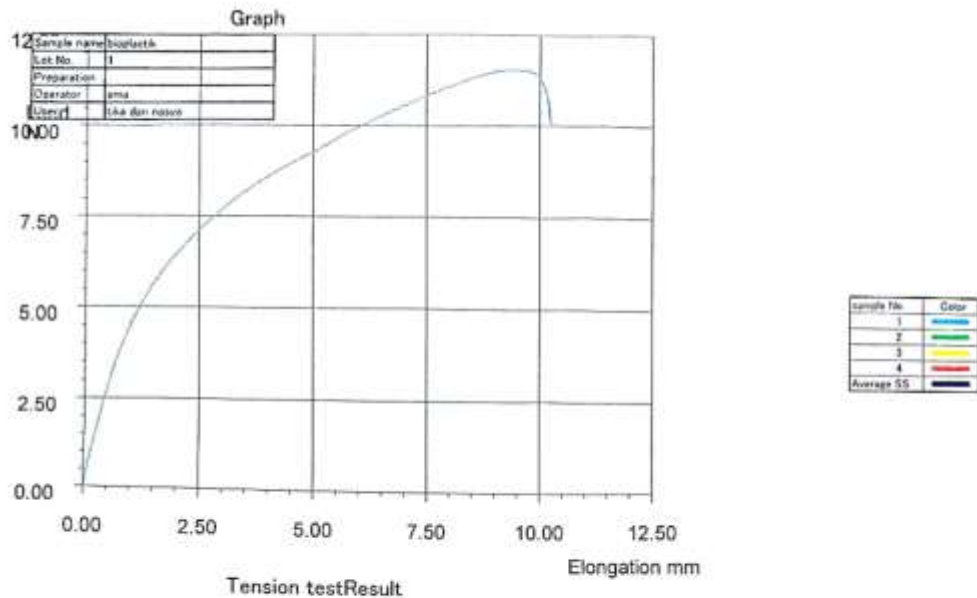


Sampel B Selulosa : Kitosan (1 : 2) gram



Sampel C Selulosa : Kitosan (2 : 1) gram

B. Hasil Pengujian Kuat Tarik dan %Elongasi



Machine name	RTI series			Test type	Tension		
Strain input 1	Not used			Test speed	10.0 mm/min		
Chart speed	OFF			Machine rigidity	0 mm/kgf		
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
	N	0	0		mm	0	0
Elastic modulus anal.	Interval	1	100	Initial sample length	Distance	676 mm	
	Load	5 N		Origin of elongation	Init. load	0.3 %RO	
Elong adjust	No			Break point measurem	0.5 N		
Save SS curve	Yes						

Test date	2024/06/21	Temperature	25 C
Humidity	60 %RH	Sample name	bioplastik
Lot No.	1	Preparation	
Operator	ema	User	tika dan nasya
Comment 1		Comment 2	

TestID=52	Maximum poin Stress MPa	Maximum poin Load N	Maximum poin Elongation mm	Maximum poin Load kgf	Width mm	Thickness mm	Elastic moda N/mm2
1	0.3851	11.552	*****	1.1779	30.000	1.0000	29.671
2	0.9513	28.539	*****	2.9102	30.000	1.0000	125.32
3	0.7168	21.503	*****	2.1927	30.000	1.0000	61.202
4	0.6423	19.270	*****	1.9550	30.000	1.0000	32.524

C. Hasil Uji Daya Serap Air

Berat Sampel Sebelum Perendaman



Sampel K



Sampel A



Sampel B



Sampel C

Berat Sampel Setelah Perendaman



Sampel K



Sampel A



Sampel B

Sampel C

D. Hasil Uji Degradabilitas

Sampel K (Kontrol)



Hari ke-0



Hari ke-3



Hari ke-6

Sampel A



Hari Ke-0



Hari Ke-3

Sampel B



Hari Ke-0

Sampel C



Hari Ke-0



Hari Ke-3

E. Hasil Uji Iodin Pada Pati



Uji Iodin ke-1

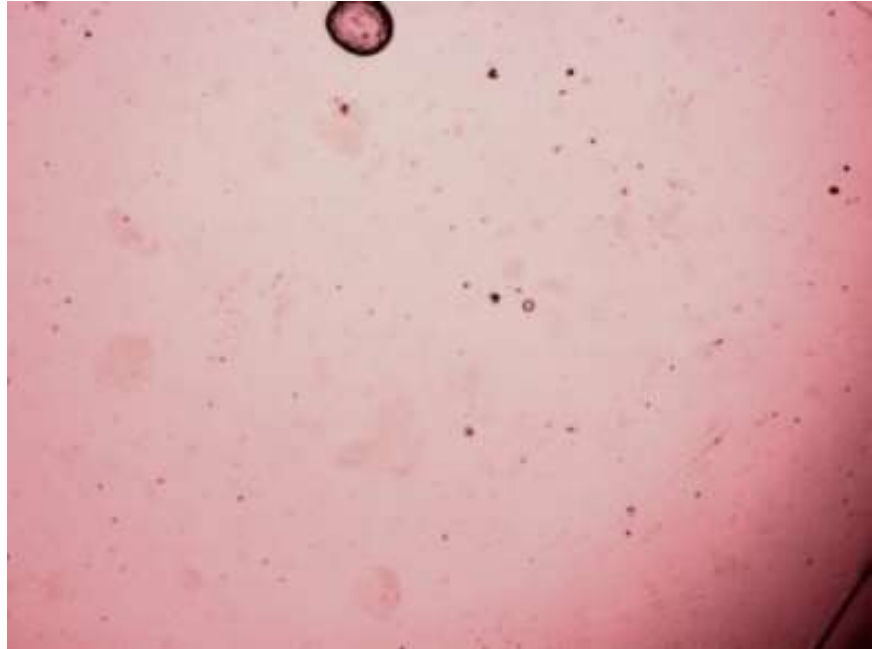


Uji Iodin ke-2

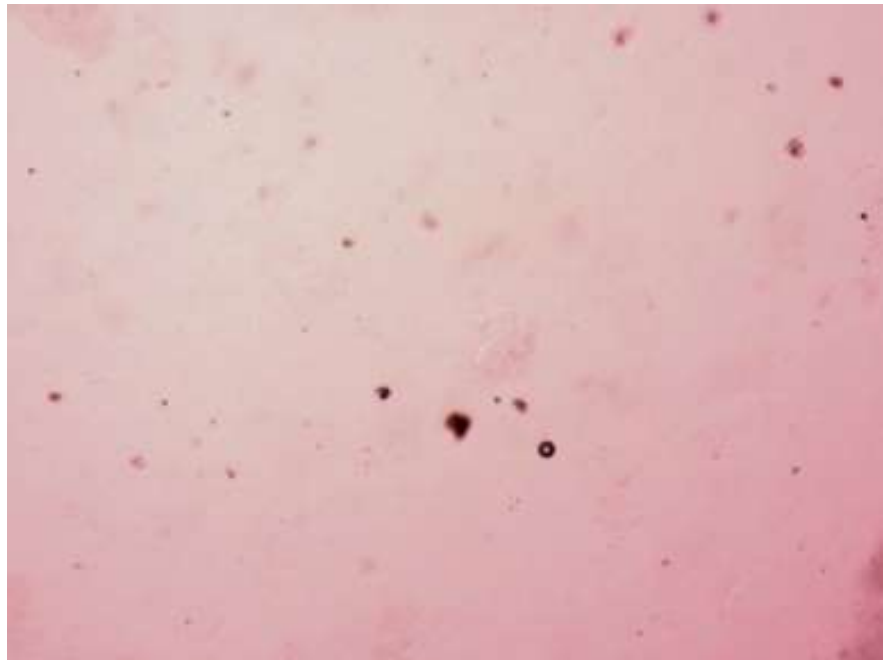


Uji Iodin ke-3

**F. Hasil Analisis Permukaan Bioplastik menggunakan Mikroskop Digital
Sampel K**

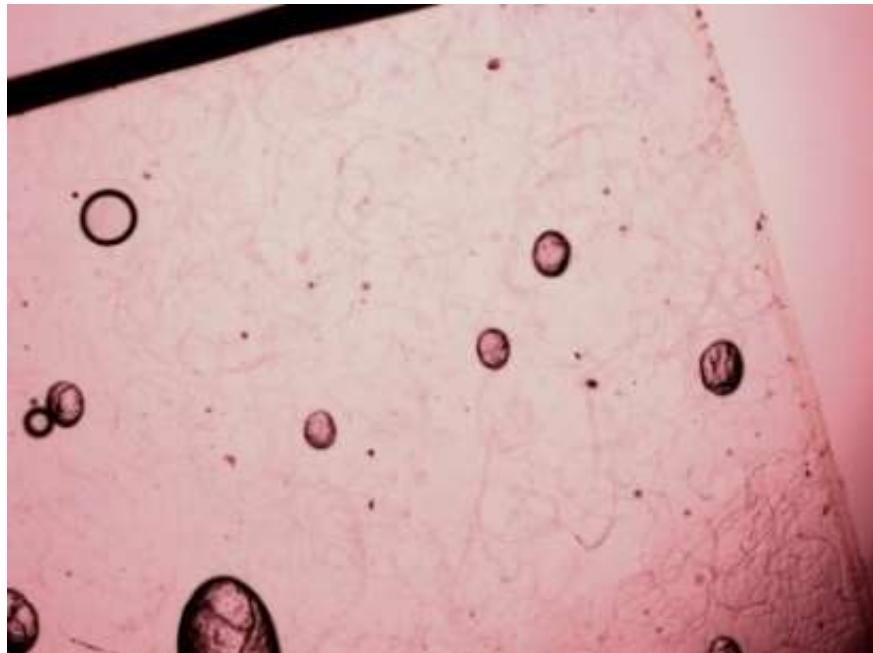


Perbesaran 4x

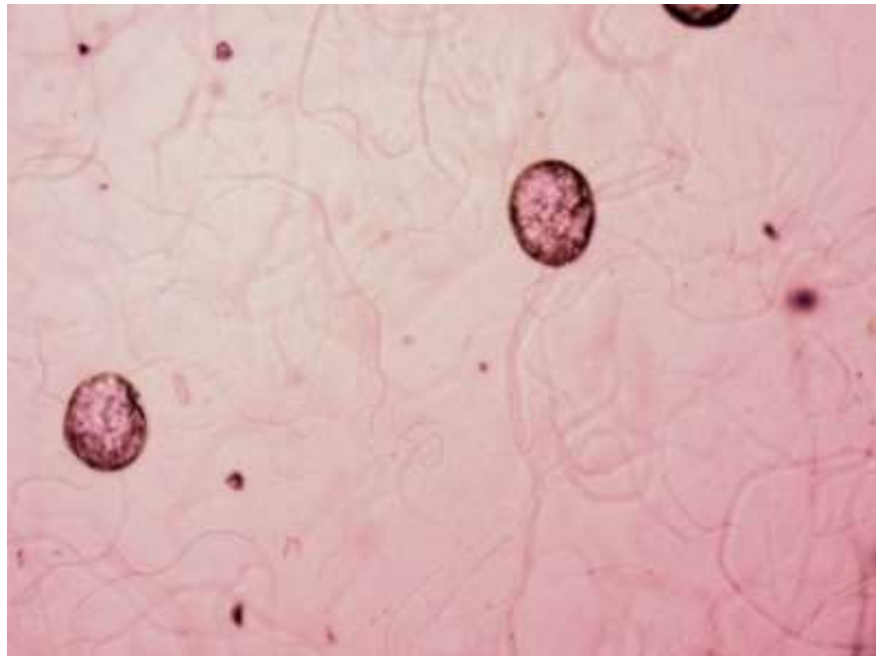


Perbesaran 10x

Sampel A

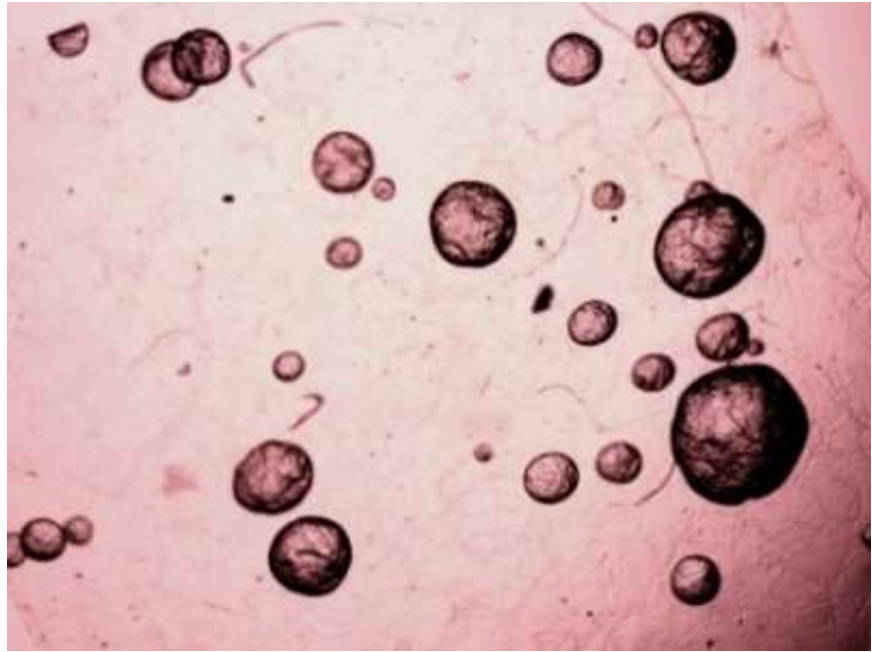


Perbesaran 4x

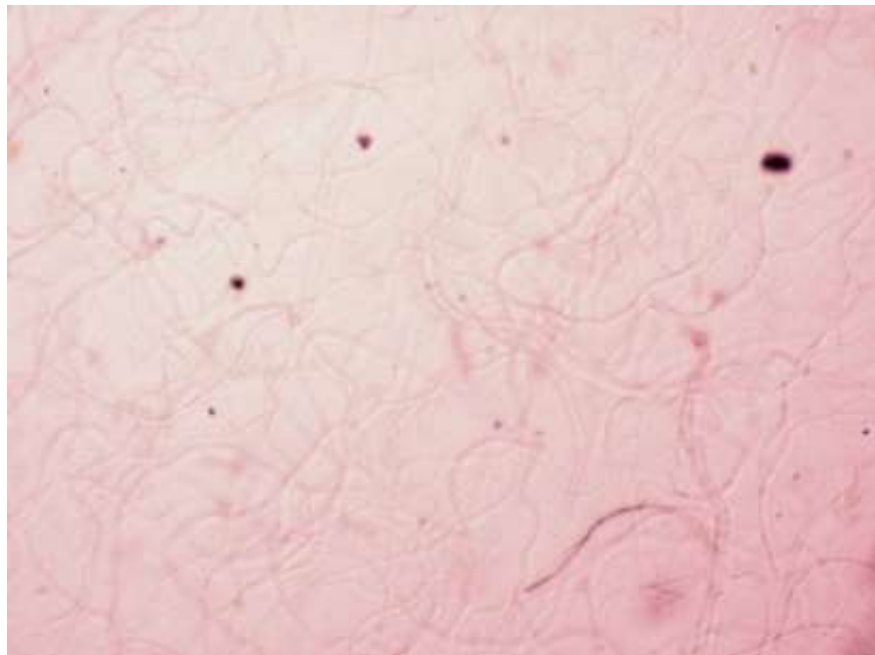


Perbesaran 10x

Sampel B

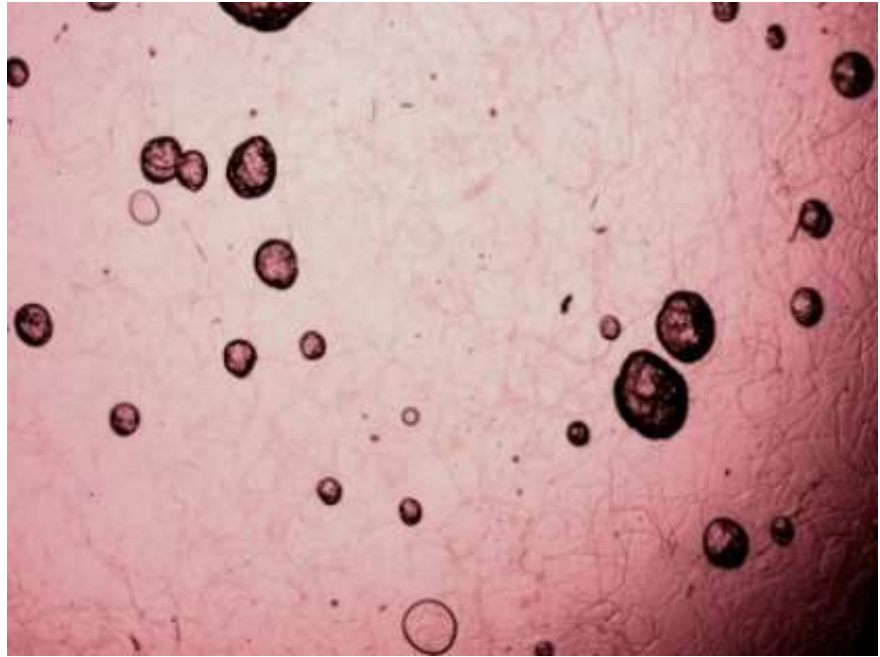


Perbesaran 4x

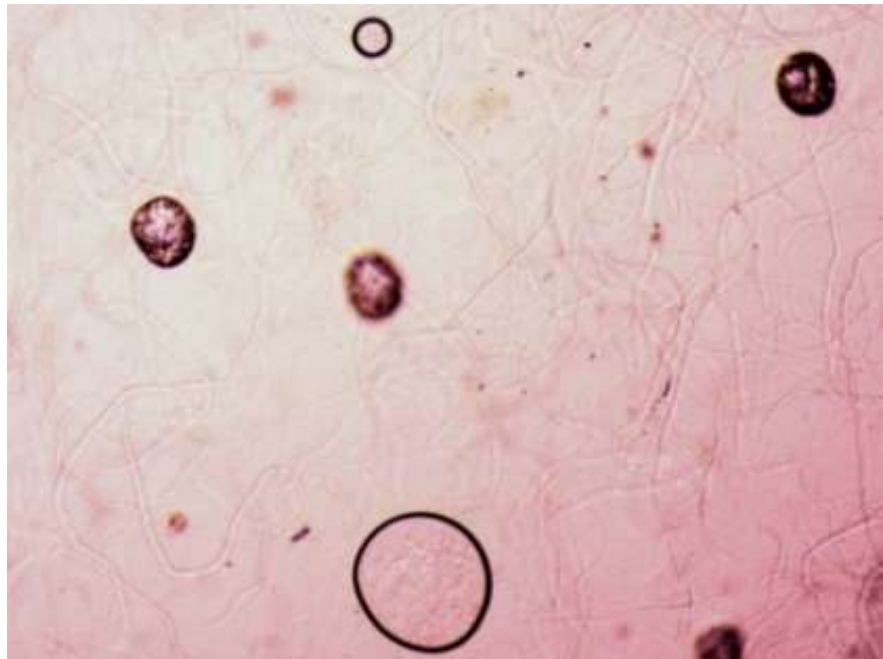


Perbesaran 10x

Sampel C



Perbesaran 4x



Perbesaran 10x

Lampiran. Biografi Penulis



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Riwayat Pendidikan :

- SD ISLAM AL-MUJAHIDIN TAHUN 2008-2014
- SMP NEGERI 01 KROYA TAHUN 2014-2017
- SMA NEGERI 1 MAOS TAHUN 2017-2020
- POLITEKNIK NEGERI CILACAP TAHUN 2020-2024

