

Data Hasil Analisa

1. Hasil Analisa Produk

- Umpan Air PDAM

Tabel 1 Hasil Analisa Produk Air Minum Sehat
Umpan Air PDAM

Sampel (pH Setting)	Produk							
	Atas				Bawah			
	pH	TDS (mg/L)	Micro clustered	Anti oksidan	pH	TDS (mg/ L)	Micro clustered	Anti oksidan
9,5	9,3	37	2	2	4,0	36	1	1
9,0	8,8	35	2	2	4,4	35	1	1
8,5	8,7	33	2	2	5,0	32	1	1
7,0	7,5	31	2	2	6,1	30	1	1

- Umpan Air Galon

Sampel (pH Setting)	Produk							
	Atas				Bawah			
	pH	TDS (mg/L)	Micro clustered	Anti oksidan	pH	TDS (mg/ L)	Micro clustered	Anti oksidan
9,5	9,2	31	2	2	4,0	31	1	1
9,0	8,7	30	2	2	4,5	31	1	1
8,5	8,4	28	2	2	4,9	28	1	1
7,0	7,3	29	2	2	6,2	28	1	1

Keterangan Analisis Antioksidan :

- 1 = berwarna (jingga)
- 2 = tidak berwarna

Keterangan Analisis *microclustered*

- 1 = tidak berwarna
- 2 = hijau

2. Kapasitas Umpan Yang Terproses

- Umpan Air PDAM

Tabel 3 Hasil Kapasitas umpan yang digunakan Produksi Air Minum Sehat (liter)

Waktu (menit)	Sampel (pH Setting)	Tinggi umpan yang berkurang (dm)	Umpan (liter)	Volume Produk (Liter)	
				Produk Atas	Produk Bawah
5		0,63	10	4	6
10	9,5	0,69	11	5,1	5,8
15		0,63	10	4,2	5,7
20		0,63	10	4,3	5,6
	Jumlah	2,58	41	17,6	23,1
25		0,63	10	4,1	5,85
30	9	0,63	10	4,1	5,8
35		0,69	11	4,5	6,4
40		0,66	10,5	4,1	6,3
	Jumlah	2,61	41,5	16,3	23,35
45		0,66	10,5	4,5	5,8
50	8,5	0,63	10	4	5,8
55		0,69	11	4,7	6,1
60		0,66	10,5	4,5	5,8
	Jumlah	2,64	42	17,7	23,5
65		0,63	10	4,5	5,4
70	7	0,63	10,5	4,3	6
75		0,69	11	5	5,8
80		0,63	10	4	5,8
	Jumlah	2,61	41,5	17,8	22

- Umpan Air Galon

Tabel 4 Hasil Kapasitas umpan yang digunakan Produksi Air Minum Sehat (liter)

Waktu (menit)	Sampel (pH Setting)	Tinggi umpan yang Berkurang (dm)	Umpan (Liter)	Volume Produk (Liter)	
				Produk Atas	Produk Bawah
5		0,69	11	5	5,9
10	9,5	0,69	11	5,2	5,7
15		0,63	10	4,2	5,7
20		0,63	10	4,4	5,5
	Jumlah	2,64	42	18,8	23,1
25		0,63	10	4,3	5,6
30	9	0,63	10	4,2	5,7
35		0,69	11	4,4	6,5
40		0,69	11	4,7	6,2
	Jumlah	2,64	42	17,6	24
45		0,63	10	4,5	5,3
50	8,5	0,66	10,5	4,6	5,8
55		0,69	11	4,8	6,1
60		0,66	10,5	4,4	6
	Jumlah	2,64	42	18,3	23,2
65		0,63	10	4,6	5,3
70	7	0,63	10	4,4	5,5
75		0,63	10	5	4,9
80		0,69	11	4,8	6
	Jumlah	2,64	42	18,8	22,7

PERHITUNGAN

Menghitung Kapasitas Umpan

1. Umpan Air PDAM

pH 9,5

1) pH 9,5 selama 5 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter}\end{aligned}$$

2) pH 9,5 selama 10 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter}\end{aligned}$$

3) pH 9,5 selama 15 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter}\end{aligned}$$

4) pH 9,5 selama 5 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter}\end{aligned}$$

5) pH 9,5 total (20 menit)

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,58 \\ &= 41\end{aligned}$$

pH 9

1) pH 9 selama 5 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter}\end{aligned}$$

2) pH 9 selama 10 menit

$$\begin{aligned}v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter}\end{aligned}$$

3) pH 9 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

4) pH 9 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,66 \\ &= 10,5 \text{ liter} \end{aligned}$$

5) pH 9 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,61 \\ &= 41,5 \end{aligned}$$

-pH 8,5

1) pH 8,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,66 \\ &= 10,5 \text{ liter} \end{aligned}$$

2) pH 8,5 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

3) pH 8,5 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

4) pH 8,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,66 \\ &= 10,5 \text{ liter} \end{aligned}$$

5) pH 8,5 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,64 \\ &= 42 \end{aligned}$$

-pH 7

1) pH 7 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

2) pH 7 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

3) pH 7 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

4) pH 7 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

5) pH 7 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,61 \\ &= 41,5 \end{aligned}$$

2. Umpan Air Galon

-pH 9,5

1) pH 9,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

2) pH 9,5 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

3) pH 9,5 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

4) pH 9,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

5) pH 9,5 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,64 \\ &= 42 \end{aligned}$$

pH 9

1) pH 9 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

2) pH 9 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

3) pH 9 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

4) pH 9,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$

5) pH 9,5 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,64 \\ &= 42 \end{aligned}$$

pH 8,5

- 1) pH 8,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$
- 2) pH 8,5 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,66 \\ &= 10,5 \text{ liter} \end{aligned}$$
- 3) pH 8,5 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,69 \\ &= 11 \text{ liter} \end{aligned}$$
- 4) pH 8,5 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,66 \\ &= 10,5 \text{ liter} \end{aligned}$$
- 5) pH 8,5 total (20 menit)

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 2,64 \\ &= 42 \end{aligned}$$

pH 8,5

- 1) pH 7 selama 5 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$
- 2) pH 7 selama 10 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$
- 3) pH 7 selama 15 menit

$$\begin{aligned} v &= \pi \times r^2 \times t \\ &= 3,14 \times (5,1)^2 \times 0,63 \\ &= 10 \text{ liter} \end{aligned}$$

$$\begin{aligned}
 4) \text{ pH } 8,5 \text{ selama } 5 \text{ menit} \\
 v &= \pi \times r^2 \times t \\
 &= 3,14 \times (5,1)^2 \times 0,69 \\
 &= 11 \text{ liter}
 \end{aligned}$$

$$\begin{aligned}
 5) \text{ pH } 8,5 \text{ total (20 menit)} \\
 v &= \pi \times r^2 \times t \\
 &= 3,14 \times (5,1)^2 \times 2,64 \\
 &= 42
 \end{aligned}$$

Menghitung nilai BEP

Diketahui :

- FC = Rp . 1 . 500 . 000,00
- S = Rp . 10 . 000,00
- P(buah) = Rp . 15 . 000,00

Penyelesaian :

$$1. \text{ BEP (Rp)} = \frac{\text{---}}{\text{---}}$$

$$\text{BEP} = \frac{\text{---}}{\text{---}} = \text{Rp. } 1500.150,00$$

$$2. \text{ BEP (Q)} = \frac{\text{---}}{\text{---}}$$

$$\text{BEP} = \frac{\text{---}}{\text{---}} = 100 \text{ buah}$$

DOKUMENTASI DATA

1. Bagian awal proses masuk ke Filter



2. Air difilter dialirkan selama 5 menit



3. Menunggu air penuh di Dalam wadah dan mengalirkan kembali umpan ke filter yang selanjutnya.



4. Mengaktifkan alat agar mendapatkan pH yang diinginkan dari pH 7 , 8.5,9,9.5.



5. Air keluaran pH dari alat *Electrolyzed Oxidized Water* pH 7,8.5,9,9.5 .



6. Tes Uji Micro cluster



Awal nya Air nya berwarna putih Ph 7, 8.5



Awal nya Air nya berwarna putih 9 , 9.5



Air pH 7, 8, 9, 9.5 yang telah di celupkan 6x langsung berubah menjadi berwarna walaupun bukan air panas

7. Tes Uji Antioksidan



Sampel Air minum sehat di teteskan obat merah sebanyak 3 tetes menjadikan sampel tersebut berwarna jingga



Setelah dihomogenkan sampel Air minum sehat berubah warna menjadi bening

