

LAMPIRAN

Lampiran 1. Pembuatan Larutan

1. Pembuatan larutan $\text{K}_2\text{Cr}_2\text{O}_7$ 0,1 N dalam 250 mL

$\text{K}_2\text{Cr}_2\text{O}_7$ ditimbang sebanyak 1,2257 gram dan dilarutkan dalam 250 mL aquades.

2. Pembuatan $\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ 0,4 N dalam 250 mL

$\text{Fe}(\text{NH}_4)_2(\text{SO}_4)_2 \cdot 6\text{H}_2\text{O}$ ditimbang sebanyak 39,213 gram dan dilarutkan dalam 250 mL aquades.



Lampiran 2. Perhitungan Pembuatan Larutan

1. Pembuatan Larutan $K_2Cr_2O_7$ 0,1 N dalam 250 mL

$$N = \frac{\text{massa (gram)} \times \text{valensi}}{BM \left(\frac{\text{gram}}{\text{mol}} \right) \times \text{volume (L)}}$$

$$0,1 N = \frac{(\text{gram}) \times 6}{294,19 \left(\frac{\text{gram}}{\text{mol}} \right) \times 0,25 L}$$

$$\text{gram} = \frac{0,1 N \times 294,19 \frac{\text{gram}}{\text{mol}} \times 0,25 L}{6}$$

$$= 1,2257 \text{ gram}$$

2. Pembuatan $Fe(NH_4)_2(SO_4)_2 \cdot 6H_2O$ 0,4 N dalam 250 mL

$$N = \frac{\text{massa (gram)}}{Mr \left(\frac{\text{gram}}{\text{mol}} \right)} \times \frac{1000}{\text{volume (mL)}}$$

$$0,4 N = \frac{\text{massa (gram)}}{Mr \left(\frac{\text{gram}}{\text{mol}} \right)} \times \frac{1000}{250}$$

$$\text{massa (gram)} = \frac{0,4 N \times 392,13 \left(\frac{\text{gram}}{\text{mol}} \right)}{4}$$

$$= 39,213 \text{ gram}$$

Lampiran 3. Perhitungan *Bulk Density*

$$\text{Bulk Density (\%)} = \frac{\text{Berat kering sampel (gram)}}{\text{Volume sampel (cm}^3\text{)}}$$

1. Sampel 1 (kedalaman 10 cm)

$$\begin{aligned}\text{Bulk Density (\%)} &= \frac{20,0871}{10 \text{ cm}^3} \\ &= 2,00871 \text{ gr/cm}^3\end{aligned}$$

2. Sampel 2 (kedalaman 20 cm)

$$\begin{aligned}\text{Bulk Density (\%)} &= \frac{20,0254}{20 \text{ cm}^3} \\ &= 1,00127 \text{ gr/cm}^3\end{aligned}$$

3. Sampel 3 (kedalaman 30 cm)

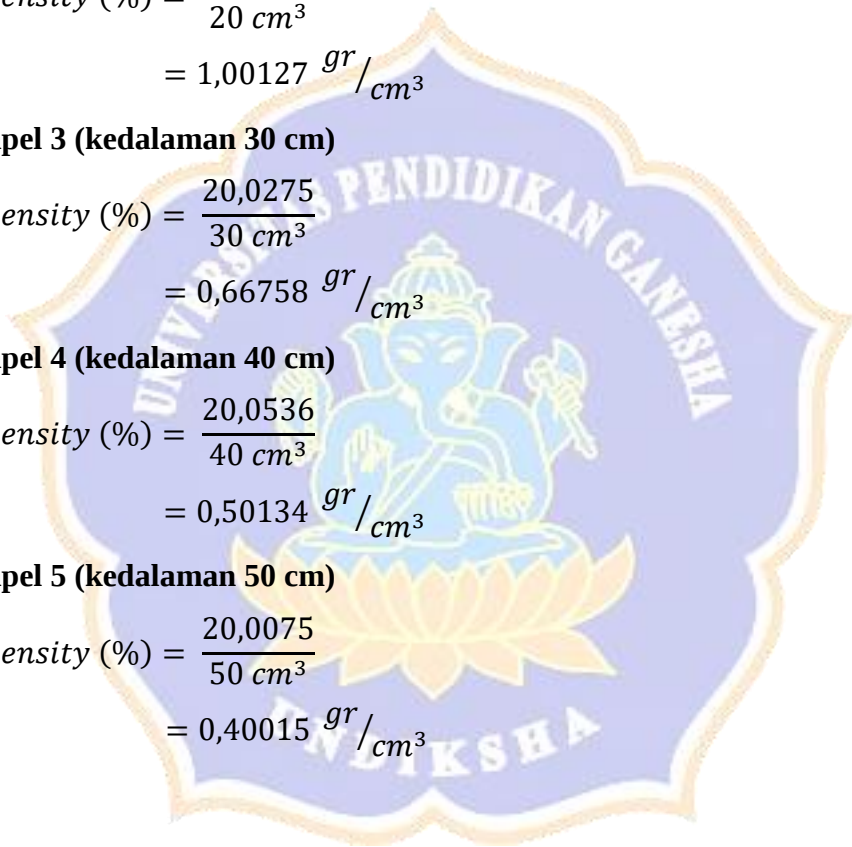
$$\begin{aligned}\text{Bulk Density (\%)} &= \frac{20,0275}{30 \text{ cm}^3} \\ &= 0,66758 \text{ gr/cm}^3\end{aligned}$$

4. Sampel 4 (kedalaman 40 cm)

$$\begin{aligned}\text{Bulk Density (\%)} &= \frac{20,0536}{40 \text{ cm}^3} \\ &= 0,50134 \text{ gr/cm}^3\end{aligned}$$

5. Sampel 5 (kedalaman 50 cm)

$$\begin{aligned}\text{Bulk Density (\%)} &= \frac{20,0075}{50 \text{ cm}^3} \\ &= 0,40015 \text{ gr/cm}^3\end{aligned}$$



Lampiran 4. Perhitungan C-Organik

$$C - organik (\%) = \frac{(V_{blank} - V_{sampel}) \times 0,3 \times N}{Wt}$$

1. Sampel 1 (kedalaman 10 cm)

Siplo

$$C - organik (\%) = \frac{(0,80 - 0,70) \times 0,3 \times 0,28}{0,03}$$

$$= \frac{0,10 \times 0,3 \times 0,28}{0,03}$$

$$= 0,2800 \%$$

Duplo

$$C - organik (\%) = \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03}$$

$$= \frac{0,15 \times 0,3 \times 0,28}{0,03}$$

$$= 0,4200 \%$$

Tripla

$$C - organik (\%) = \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03}$$

$$= \frac{0,15 \times 0,3 \times 0,28}{0,03}$$

$$= 0,4200 \%$$

$$Kadar C - organik = \frac{0,2800 + 0,4200 + 0,4200}{3} = 0,3733 \%$$

2. Sampel 2 (kedalaman 20 cm)

Siplo

$$C - organik (\%) = \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03}$$

$$= \frac{0,15 \times 0,3 \times 0,28}{0,03}$$

$$= 0,4200 \%$$

Duplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,70) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,10 \times 0,3 \times 0,28}{0,03} \\
 &= 0,2800 \%
 \end{aligned}$$

Triplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \% \\
 \text{Kadar } C - \text{organik} &= \frac{0,4200 + 0,2800 + 0,5600}{3} = 0,4200\%
 \end{aligned}$$

3. Sampel 3 (kedalaman 30 cm)**Siplo**

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \%
 \end{aligned}$$

Duplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,15 \times 0,3 \times 0,28}{0,03} \\
 &= 0,4200 \%
 \end{aligned}$$

Triplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \% \\
 \text{Kadar } C - \text{organik} &= \frac{0,5600 + 0,4200 + 0,5600}{3} = 0,5133 \%
 \end{aligned}$$

4. Sampel 4 (kedalaman 40 cm)**Siplo**

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,55) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,25 \times 0,3 \times 0,28}{0,03} \\
 &= 0,7000 \%
 \end{aligned}$$

Duplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \%
 \end{aligned}$$

Triplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,15 \times 0,3 \times 0,28}{0,03} \\
 &= 0,4200 \% \\
 \text{Kadar } C - \text{organik} &= \frac{0,7000 + 0,5600 + 0,4200}{3} = 0,5600 \%
 \end{aligned}$$

5. Sampel 5 (kedalaman 50 cm)

Siplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,65) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,15 \times 0,3 \times 0,28}{0,03} \\
 &= 0,4200 \%
 \end{aligned}$$

Duplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \%
 \end{aligned}$$

Triplo

$$\begin{aligned}
 C - \text{organik} (\%) &= \frac{(0,80 - 0,60) \times 0,3 \times 0,28}{0,03} \\
 &= \frac{0,20 \times 0,3 \times 0,28}{0,03} \\
 &= 0,5600 \%
 \end{aligned}$$

$$\text{Kadar } C - \text{organik} = \frac{0,4200 + 0,5600 + 0,5600}{3} = 0,5133 \%$$

Lampiran 5. Dokumentasi

Proses pembuatan plot



Proses pengukuran kedalaman



Proses pengambilan sampel



Tanah komposit



Pengeringan sampel



Proses titrasi



Warna awal
C-organik



Warna akhir
C-organik

