DAFTAR PUSTAKA

Ali, M. (2015). *Survei Tanah, Evaluasi dan Perencanaan Penggunaan Lahan*. Medan: Penerbit Universitas Sumatera Utara Press.

Bangun, R. (2021). *Kelapa Sawit: Budidaya, Pengolahan, dan Pemasaran*. Medan: Pustaka Agribisnis.

Didimus, D., Silalahi, Y., & Hutagalung, R. (2017). Peranan industri kelapa sawit terhadap pembangunan ekonomi nasional. *Jurnal Agro Ekonomi*, 35(1), 11–25. https://doi.org/10.21082/jae.v35n1.2017.11-25

Fauizek, A., & Suhendra, E. (2018). Sifat fisik tanah sebagai penentu produktivitas lahan pertanian. *Jurnal Sains Tanah*, 16(2), 91–98.

Hardjowigeno, S. (2007). *Ilmu Tanah*. Jakarta: Akademika Pressindo.

Kartika, J. G., Siregar, M., & Nainggolan, H. (2015). Pemanfaatan janjang kosong sawit sebagai pupuk organik. *Jurnal Teknik Kimia*, 21(1), 30–36.

Ladjinga, H., Eteng, A., & Prabowo, H. (2020). Karakteristik dan klasifikasi tanah di beberapa penggunaan lahan. *Jurnal Tanah dan Iklim*, 44(1), 1–10.

Nora, E., Suhardi, & Yunizar, Y. (2018). Kesesuaian lahan dan pertumbuhan tanaman kelapa sawit pada ketinggian berbeda. *Jurnal Agroteknologi Tropika*, 6(1), 14–21.

Pahan, I. (2015). *Panduan Lengkap Kelapa Sawit: Agribisnis, Pengolahan, dan Pemasaran*. Jakarta: Penebar Swadaya.

Prasetyo, B. H., Suryani, E., & Anwar, S. (2006). Kesesuaian lahan dan pengelolaan tanah berpasir untuk pertanian. *Jurnal Tanah dan Iklim*, 24(2), 47–55.

Prayitno, J., Arifin, B., & Hidayat, A. (2008). Pemanfaatan limbah padat kelapa sawit sebagai pupuk organik. *Jurnal Ilmu Pertanian Indonesia*, 13(3), 145–153.

Rahmalia, R., Saputra, R., & Sari, A. (2006). Kajian potensi limbah lignoselulosa dalam penyerapan logam berat. *Jurnal Teknologi Lingkungan*, 7(1), 55–62.

Rufinusta Sinuraya, R. (2016). Pemanfaatan limbah janjang kosong kelapa sawit sebagai sumber hara tanaman. *Jurnal Pertanian Tropik*, 3(1), 22–28.

Santun, T. (2004). Evaluasi kesesuaian lahan untuk pengembangan kelapa sawit. *Jurnal Tanah dan Lingkungan*, 6(1), 15–22.

Simbolon, D., Ginting, D., & Sitio, A. (2015). Komposisi unsur hara janjang kosong kelapa sawit sebagai pupuk organik. *Jurnal Agrotek Tropika*, 3(1), 39–44.

Sutedjo, M. M., & Kartasapoetra, A. G. (2019). Ilmu Kesuburan Tanah. Jakarta: Rineka Cipta.

Singh, M., Mandal, B., & Hazra, G. C. (2022). Organic residue application improves soil water retention and crop productivity in sandy soils. *Soil & Tillage Research*, 215, 105213. https://doi.org/10.1016/j.still.2021.105213

Sofyan, A. (2007). Kesesuaian lahan dan potensi pengembangan tanaman tahunan. *Jurnal Ilmu Tanah Indonesia*, 2(2), 75–82.

Sudaryono. (2001). Pengaruh fraksi pasir terhadap sifat fisik tanah. *Jurnal Penelitian Pertanian*, 20(3), 36–42.

Syuryani, D. (2023). Kajian pemanfaatan lahan berdasarkan karakteristik biofisik untuk pembangunan berkelanjutan. *Jurnal Pengelolaan Sumberdaya Alam dan Lingkungan*, 13(1), 1–10.

Tian, H., Ren, Y., Yang, Y., & Li, X. (2021). Organic mulching improves soil water retention and crop yield in sandy soils: A meta-analysis. *Agricultural Water Management*, 248, 106756. https://doi.org/10.1016/j.agwat.2021.106756

Vink, A. P. A. (dalam Ali, 2015). *Survei Tanah, Evaluasi dan Perencanaan Penggunaan Lahan*. Medan: Universitas Sumatera Utara Press.

Wardani, S., & Widiawati, Y. (2013). Kandungan lignoselulosa dan potensi serat janjang kosong kelapa sawit. *Jurnal Teknologi Industri Pertanian*, 23(1), 12–20.

Yulnafatmawita, Tufaila, M., & Irwan, A. (2017). The effect of organic matter on porosity and water availability in sandy soil. International Journal of Agricultural Research, 12(3), 130–137. https://doi.org/10.3923/ijar.2017.130.137

Zhang, Q., Wang, L., & Li, Y. (2020). Effects of organic amendment on pH and soil nutrients in degraded lands: A meta-analysis. *Science of The Total Environment*, 719, 137499. https://doi.org/10.1016/j.scitotenv.2020.137499

Allorerung, D., Syakir, M., Poeloengan, Z., Syafaruddin, & Ruraini, W. (2010). *Budidaya kelapa sawit*. Bogor: Pusat Penelitian dan Pengembangan Perkebunan.

Hati, K. M., Mandal, K. G., Misra, A. K., & Bandyopadhyay, K. K. (2021). Impact of organic amendments on soil aggregation, water retention and crop

productivity in sandy soils: A review. *Soil & Tillage Research*, *213*, 105127. https://doi.org/10.1016/j.still.2021.105127

Odebode, S. O., Adejumo, T. O., & Ayodele, B. A. (2020). Ameliorative effects of organic waste on soil physical properties and crop productivity. *International Journal of Recycling of Organic Waste in Agriculture*, *9*(2), 173–181. https://doi.org/10.30486/ijrowa.2020.1886246.1036

Odey, M. O., Lawal, A. I., & Nwankwo, M. (2021). Effect of empty fruit bunches (EFB) of oil palm on soil moisture retention and reduction in evaporation in sandy soils. *Nigerian Journal of Soil Science*, *31*(1), 82–89.

Suhardjo, H., Darmawan, S., & Nurhayati, A. (2018). Peran biopori dalam perbaikan sifat fisik tanah dan konservasi air. *Jurnal Ilmu Tanah dan Lingkungan*, *20*(2), 74–80. https://doi.org/10.29244/jitl.20.2.74-80

Yeboah, S., Zhang, R., Cai, L., & Liu, J. (2022). Organic residue management improves soil physical and chemical properties in degraded tropical soils. *Land Degradation & Development*, *33*(3), 473–483. https://doi.org/10.1002/ldr.4179

Didimus, Y., Rohmiyati, S. M., & Gunawan, S. (2017). Kajian produktivitas kelapa sawit pada tingkat kesesuaian lahan yang berbeda. *Jurnal Agromast, 2*(2), 1–10.

Sutanto, R. (2015). Teknologi Pengelolaan Tanah dan Air. Yogyakarta: Gadjah Mada University Press.

Zuraidah, E., Rivai, M., & Herawan, T. (2016). Effect of oil palm empty fruit bunches (EFB) on physical properties and carbon storage of soil. Journal of Tropical Soils, 21(2), 67–74. https://doi.org/10.5400/jts.2016.v21i2.67

Direktorat Jenderal Perkebunan. (2020). *Statistik perkebunan Indonesia*. Jakarta: Sekretariat Direktorat Jenderal Perkebunan.

Firga Nurdianto, Basir-Cyio, M., & Toana, M. R. C. (2022). Analisis sifat fisika tanah pada pengembangan lahan kelapa sawit (Elaeis guineensis Jacq.) di Desa Laemanta Utara Kecamatan Kasimbar Kabupaten Parigi Moutong. *e-Jurnal Agrotekbis, 10*(5), 601–609.

Kabul Mahi, A. (2015). *Survei tanah: Evaluasi dan perencanaan penggunaan lahan* (Edisi ke-2). Yogyakarta: Graha Ilmu.

Laddy Megayanti, Zurhalena, Junedi, H., & Fuadi, N. A. (2022). Kajian beberapa sifat fisika tanah yang ditanami kelapa sawit pada umur dan kelerengan yang berbeda (Studi kasus Perkebunan Sawit Kelurahan Simpang Tuan,

Kecamatan Mendahara Ulu, Tanjung Jabung Timur). *Jurnal Tanah dan Sumberdaya Lahan, 9*(2), 413–420.

Maysarah, & Nelvia. (2018). Sifat fisik tanah perkebunan kelapa sawit (Elaeis guineensis Jacq.) setelah diaplikasi tandan kosong kelapa sawit dan limbah cair pabrik kelapa sawit. *Jurnal Dinamika Pertanian, 34*(1), 27–34.

Modul Praktikum. (2021). *Modul praktikum dalam jaringan mata kuliah Evaluasi Lahan Kemampuan Lahan*. Samarinda: Universitas Mulawarman.

Nora, S., Carolina, D., & Mual. (2018). *Budidaya tanaman kelapa sawit*. Jakarta: Pusat Pendidikan Pertanian, Badan Penyuluhan dan Pengembangan SDM Pertanian, Kementerian Pertanian.

Pahan, I. (2015). *Panduan teknis budidaya kelapa sawit untuk praktisi perkebunan*. Bogor: Penebar Swadaya.

Ritung, S., et al. (2007). *Evaluasi kesesuaian lahan dengan contoh peta arahan penggunaan lahan Kabupaten Aceh Barat*. Bogor: Balai Penelitian Tanah.

Sitprus, S. R. P. (2004). *Evaluasi sumberdaya lahan*. Bandung: PT Tarsito.

Sudarmaji, I., & Hasan, W. (2017). Strategi pengembangan keterkaitan kebun inti plasma dengan kapasitas pabrik kelapa sawit pada Perkebunan PT. Kurnia Luwuk Sejati Banggai Sulawesi Tengah. *Jurnal Galung Tropika, 6*(1), 33–41.

Syuryani, M. I. (2023). *Analisis kesesuaian lahan untuk tanaman kelapa sawit di wilayah gambut Desa Mekar Sari Kecamatan Pasir Sakti Kabupaten Lampung Timur* (Skripsi, Universitas Islam Negeri Syarif Hidayatullah Jakarta).

LAMPIRAN

1: Rumus-rumus

Rumus Tekstur

- Tf 1 = (9/5 x tc 1)+32^{0}F
- P1 = R1+(tf 1-67)x0,2
- Tf 2 = (9/5 x tc 2)+32^{0}F
- P2 = R2+(tf 2-67)x0,2
- BTKM =

$\frac{100}{100+KL}$ x 50 gr

- % Pasir =

100 –($\frac{P1}{BTKM}$) x 100%

- % Lempung = $\frac{P2}{BTKM}$ x 100%
- % Debu =

100% - % pasir - % lempung

Keterangan :

- RI = Pembacaan hydrometer I
- TCI = Suhu thermometer I
- R2 = PembacaanHidrometer II
- TC2 = Suhu thermometer II

Rumus Berat Jenis

- BTKM = $\frac{100}{100+KL\ 2mm}$ x (c-a)
- VBT = $\frac{b-a}{BJ\ 1}$ - $\frac{d-c}{BJ\ 2}$

• BJ = $\frac{BTKM}{VBT}$

Keterangan :

- a = Piknometer kosong
- b = Piknometer isi air penuh
- T1 = Suhu awal
- c = Piknometer + tanah 5 gram
- d = Piknometer + tanah = air penuh
- T2 = Suhu akhir

Berat volume tanah.

Rumus :

• BTKM = $\frac{100}{100+KL\ Bongkah}$ x a

• VBT = (q-r-p) - $\frac{b-a}{0,87}$

• BV = $\frac{BTKM}{VBT}$

Keterangan :

- a = Berat bongkah tanah
- b = Beratbongkahdilapisililin
- p = Volume awal
- q = Volume akhir
- r = Jumlah air yang ditambah

Kadar lengas maksimum

Rumus KLM :

• BTKM = $\frac{(b-a)-(c-d)}{(c-d)}$ x 100%

Keterangan:

- a = Piring tembaga +kertas saring
- b = Berat tanah jenuh
- c = Berat setelah di oven
- d = Berat piring tembaga + kertas saring kering

Lampiran 2:

Descriptive Statistics			
Dependent Variable: Berat_Volume			
Perlakuan	Mean	Std. Deviation	N
P0	1.5200	.01000	3
P1	1.4200	.01000	3
P2	1.3500	.01000	3
P3	1.3000	.01000	3
Total	1.3975	.08667	12

Tests of Between-Subjects Effects					
Dependent Variable: Berat_Volume					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.082[a]	3	.027	272.750	.000
Intercept	23.436	1	23.436	234360.750	.000
Perlakuan	.082	3	.027	272.750	.000
Error	.001	8	.000		
Total	23.519	12			
Corrected Total	.083	11			
a. R Squared = .990 (Adjusted R Squared = .987)					

Berat_Volume					
Duncan[a,b]					
		Subset			
Perlakuan	N	1	2	3	4
P3	3	1.3000			
P2	3		1.3500		
P1	3			1.4200	
P0	3				1.5200
Sig.		1.000	1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .000.					
a. Uses Harmonic Mean Sample Size = 3.000.					
b. Alpha = ,05.					

Descriptive Statistics			
Dependent Variable: Berat_Jenis			
Perlakuan	Mean	Std. Deviation	N
P0	2.6133	.04041	3
P1	2.5933	.11372	3
P2	2.5567	.06807	3
P3	2.5367	.07767	3
Total	2.5750	.07465	12

Tests of Between-Subjects Effects					
Dependent Variable: Berat_Jenis					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.011[a]	3	.004	.572	.649
Intercept	79.568	1	79.568	12613.078	.000
Perlakuan	.011	3	.004	.572	.649
Error	.050	8	.006		
Total	79.629	12			
Corrected Total	.061	11			
a. R Squared = .177 (Adjusted R Squared = -.132)					

Descriptive Statistics			
Dependent Variable: Porositas			
Perlakuan	Mean	Std. Deviation	N
P0	42.6400	.38000	3
P1	45.8000	.38000	3
P2	48.2767	.38501	3
P3	50.0000	.38000	3
Total	46.6792	2.91027	12

Tests of Between-Subjects Effects					
Dependent Variable: Porositas					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	92.003[a]	3	30.668	210.980	.000
Intercept	26147.335	1	26147.335	179881.914	.000
Perlakuan	92.003	3	30.668	210.980	.000
Error	1.163	8	.145		
Total	26240.501	12			
Corrected Total	93.166	11			
a. R Squared = .988 (Adjusted R Squared = .983)					

Porositas					
Duncan[a,b]					
		Subset			
Perlakuan	N	1	2	3	4
P0	3	42.6400			
P1	3		45.8000		
P2	3			48.2767	
P3	3				50.0000
Sig.		1.000	1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .145.					
a. Uses Harmonic Mean Sample Size = 3.000.					
b. Alpha = ,05.					

Descriptive Statistics			
Dependent Variable: pH			
Perlakuan	Mean	Std. Deviation	N
P0	5.1667	.05774	3
P1	5.5000	.10000	3
P2	5.7000	.10000	3
P3	6.0000	.10000	3
Total	5.5917	.32602	12

Tests of Between-Subjects Effects					
Dependent Variable: pH					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.103[a]	3	.368	44.100	.000
Intercept	375.201	1	375.201	45024.100	.000
Perlakuan	1.102	3	.367	44.100	.000
Error	.067	8	.008		
Total	376.370	12			
Corrected Total	1.169	11			
a. R Squared = .943 (Adjusted R Squared = .922)					

pH					
Duncan[a,b]					
		Subset			
Perlakuan	N	1	2	3	4
P0	3	5.1667			
P1	3		5.5000		
P2	3			5.7000	
P3	3				6.0000
Sig.		1.000	1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .008.					
a. Uses Harmonic Mean Sample Size = 3.000.					
b. Alpha = ,05.					

Descriptive Statistics			
Dependent Variable: Kadar_Air			
Perlakuan	Mean	Std. Deviation	N
P0	3.2000	.10000	3
P1	5.8000	.20000	3
P2	7.2000	.10000	3
P3	8.3667	.15275	3
Total	6.1417	2.01560	12

Tests of Between-Subjects Effects					
Dependent Variable: Kadar_Air					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	44.523[a]	3	14.841	712.360	.000
Intercept	452.641	1	452.641	21726.760	.000
Perlakuan	44.522	3	14.841	712.360	.000
Error	.167	8	.021		
Total	497.330	12			
Corrected Total	44.689	11			
a. R Squared = .996 (Adjusted R Squared = .995)					

Kadar_Air					
Duncan[a,b]					
		Subset			
Perlakuan	N	1	2	3	4
P0	3	3.2000			
P1	3		5.8000		
P2	3			7.2000	
P3	3				8.3667
Sig.		1.000	1.000	1.000	1.000
Means for groups in homogeneous subsets are displayed. Based on observed means. The error term is Mean Square(Error) = .021.					
a. Uses Harmonic Mean Sample Size = 3.000.					
b. Alpha = ,05.					

Descriptive Statistics			
Dependent Variable: Kadar_Lengas			
Perlakuan	Mean	Std. Deviation	N
P0	2.6000	.10000	3
P1	4.1667	.15275	3
P2	5.5000	.10000	3
P3	6.6667	.15275	3
Total	4.7333	1.58764	12

Tests of Between-Subjects Effects					
Dependent Variable: Kadar_Lengas					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	27.593[a]	3	9.198	551.867	.000
Intercept	268.853	1	268.853	16131.200	.000
Perlakuan	27.593	3	9.198	551.867	.000
Error	.133	8	.017		
Total	296.580	12			
Corrected Total	27.727	11			
a. R Squared = .995 (Adjusted R Squared = .993)					

Lampiran 3: Dokumentasi Penelitian