

## 5.5 Daftar pustaka

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## Lampiran 1

Lampiran 1.1. Data rata-rata bulanan curah hujan (mm) priode 2011 - 2020

Tahun	Bulan											
	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Agus	Sep	Okt	Nov	Des
2011	254	165	149	267	152	64	57	35	95	368	228	365
2012	182	251	154	192	145	103	179	77	66	157	115	275
2013	179	168	165	260	182	233	234	99	85	96	435	247
2014	118	139	192	206	245	151	207	79	35	51	152	294
2015	161	247	117	230	98	190	65	38	36	48	94	181
2016	107	234	113	298	225	299	154	176	258	381	257	221
2017	226	218	291	215	221	223	196	197	234	271	355	202
2018	164	214	200	181	132	134	96	118	53	136	233	239
2019	165	319	188	353	54	115	44	36	34	75	76	91
2020	211	191	198	151	205	124	198	156	258	226	212	220

Lampiran 1.2. Data rata-rata bulanan temperatur minimum (°C) priode 2011-2020

Tahun	Bulan											
	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Agus	Sep	Okt	Nov	Des
2011	24.7	24.7	24.8	25.1	25.6	24.7	24.4	24.4	25.0	25.8	25.9	25.3
2012	24.9	25.1	25.1	25.5	25.3	24.7	24.2	24.3	25.0	26.0	26.2	25.5
2013	24.9	25.3	25.7	25.8	25.6	25.6	24.5	24.5	25.2	25.9	25.6	25.2
2014	24.6	25.1	25.6	25.8	25.9	25.2	24.8	24.5	24.8	25.8	26.2	25.6
2015	24.8	25.1	25.3	25.7	25.7	25.0	24.8	24.5	25.3	26.3	26.6	26.1
2016	26.3	26.1	26.4	26.2	26.5	25.4	25.3	25.4	25.7	25.8	26.0	25.6
2017	25.3	25.2	25.5	26.0	25.8	25.1	24.8	24.6	25.5	26.0	26.0	25.6
2018	24.9	25.2	25.5	25.9	25.7	24.9	24.8	25.0	25.1	26.2	26.1	25.7
2019	25.6	25.8	25.7	26.0	25.9	25.1	24.4	24.5	25.0	25.9	26.8	26.6
2020	26.1	26.2	26.2	26.2	26.2	25.3	24.7	24.9	25.5	26.0	26.0	25.3

Lampiran 1.3. Data rata-rata bulanan temperatur maksimum (°C) priode 2011-2020

Tahun	Bulan											
	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Agus	Sep	Okt	Nov	Des
2011	28.7	29.1	29.1	28.9	31.1	29.3	28.6	29.4	30.2	30.9	31.0	30.1
2012	29.2	29.3	29.1	29.9	29.8	29.4	28.2	29.2	30.1	31.4	31.3	30.2
2013	29.6	29.9	30.1	30.6	30.2	29.7	28.4	29.7	30.5	30.4	30.6	30.5
2014	28.7	29.4	30.1	31.4	30.1	29.4	29.3	29.5	30.5	31.9	31.7	29.9
2015	28.8	29.0	29.5	30.4	30.1	29.2	29.5	30.1	31.8	32.8	32.6	31.4
2016	31.5	30.4	31.0	30.5	30.7	29.9	29.4	30.2	30.7	31.1	31.1	30.3
2017	29.6	29.5	29.5	30.0	29.8	29.0	28.8	29.2	30.6	30.7	30.5	30.5
2018	29.1	29.5	29.8	30.5	30.1	29.3	29.4	29.4	30.6	31.7	31.0	33.4
2019	30.0	30.5	30.1	30.4	29.9	29.4	29.6	30.5	31.1	31.4	31.7	32.2
2020	31.8	30.9	31.0	30.5	30.8	29.6	29.3	29.7	30.2	31.0	31.4	29.5

Lampiran 1.4. Data rata-rata bulanan kelembaban udara relatif (%) priode 2011-2020

Tahun	Bulan											
	Jan	Feb	Mar	Apr	Mei	Jun	Jul	Agus	Sep	Okt	Nov	Des
2011	84.9	82.5	84.8	84.9	85.0	85.9	84.9	81.9	81.1	82.1	82.0	85.3
2012	83.3	84.6	83.6	84.3	84.5	86.4	86.6	83.6	79.5	79.6	80.3	84.3
2013	84.9	84.4	83.1	83.8	85.7	83.9	87.8	84.1	81.8	80.4	81.5	85.0
2014	85.6	83.6	83.7	83.4	86.3	87.9	85.9	82.9	75.5	73.5	79.4	83.3
2015	83.9	83.9	83.1	83.4	84.6	86.3	82.6	79.5	73.9	72.4	79.8	82.1
2016	82.7	82.8	83.1	84.4	84.5	85.7	83.5	82.1	80.6	82.9	83.1	81.9
2017	82.3	83.1	82.6	82.4	87.1	86.2	85.2	83.4	81.5	81.8	81.4	83.4
2018	84.1	83.3	83.0	83.4	86.0	86.9	84.7	81.6	77.2	78.9	81.6	83.3
2019	81.9	82.8	82.5	84.2	84.3	86.0	82.9	80.6	78.0	77.1	77.3	79.8
2020	82.3	81.7	82.0	83.1	85.7	85.6	86.4	82.5	81.8	80.4	82.1	83.3

## Lampiran 2

Lampiran 2.1a. Kerapatan isi tanah dan kerapatan isi batu pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sistem	Kerapatan Isi (g cm-3)			
	Tanah 0-20 cm	Tanah 20-40 cm	Batu 0-20 cm	Batu 20-40 cm
Mono1	1.18	0.88	2.29	2.11
Mono2	1.01	0.96	2.81	2.57
Mono3	0.97	0.82	2.59	2.37
Mono4	1.00	0.81	2.69	2.37
Rata-rata Mono	1.04	0.87	2.60	2.35
YCAF1	1.01	0.93	2.82	2.29
YCAF2	0.93	0.86	2.34	2.42
YCAF3	0.89	0.81	2.20	2.34
YCAF4	0.94	0.82	2.29	2.29
Rata-rata YCAF	0.94	0.86	2.41	2.34
OCAF1	0.99	0.98	2.67	2.61
OCAF2	1.01	0.96	2.87	2.57
OCAF3	0.94	0.77	2.29	2.30
OCAF4	0.99	1.05	2.36	2.87
Rata-rata OCAF	0.98	0.94	2.55	2.59

Lampiran 2.1b. Analisis sidik ragam kerapatan isi tanah kedalaman 0-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.02	0.008	4.10	4.8	9.78
Perlakuan	2	0.02	0.010	4.73	5.1	7.21
Galat	6	0.01	0.002			
Total	11	0.06				
KK=		4.6%				

Lampiran 2.1c. Analisis sidik ragam kerapatan isi tanah kedalaman 20-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.03	0.011	2.00	4.8	9.78
Perlakuan	2	0.02	0.008	1.53	5.1	7.21
Galat	6	0.03	0.006			
Total	11	0.08				
KK=		8.4%				

Lampiran 2.1d. Analisis sidik ragam kerapatan isi batu kedalaman 0-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.03	0.011	2.00	4.8	9.78
Perlakuan	2	0.02	0.008	1.53	5.1	7.21
Galat	6	0.03	0.006			
Total	11	0.08				
KK=		8.4%				

Lampiran 2.1e. Analisis sidik ragam kerapatan isi batu pada kedalaman 20-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.18	0.060	0.85	4.8	9.78
Perlakuan	2	0.07	0.036	0.51	5.1	7.21
Galat	6	0.42	0.070			
Total	11	0.67				
KK=		10.5%				

Lampiran 2.2a. Persentase volume batu pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sistem	Bolume batu (%)	
	Volume Batu 0-20	Volume Batu 30-40
Mono1	34	38
Mono2	17	48
Mono3	40	64
Mono4	45	66
Rata-rata Mono	34	54
YCAF1	15	32
YCAF2	37	61
YCAF3	39	64
YCAF4	30	59
Rata-rata YCAF	30	54
OCAF1	47	34
OCAF2	18	48
OCAF3	28	67
OCAF4	10	45
Rata-rata OCAF	26	48

Lampiran 2.2.b. Analisis sidik ragam persentase volume batu kedalaman 0-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF) hasil transformasi Log Y

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.07	0.023	0.36 ns	4.8	9.78
Perlakuan	2	0.05	0.027	0.41 ns	5.1	7.21
Galat	6	0.39	0.065			
Total	11	0.52				
KK=	18%					

Lampiran 2.2c. Analisis sidik ragam persentase volume batu kedalaman 20-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	1473.67	491.222	10.33	4.8	9.78
Perlakuan	2	80.67	40.333	0.85	5.1	7.21
Galat	6	285.33	47.556			
Total	11	1839.67				
KK=	13%					

Lampiran 2.3a. Rata-rata kadar air tanah pada empat lapisan tanah (0-10 ; 10-20; 20-30 dan 30-40 cm) di tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF).

Sistem	Kedalaman			
	0-10	10-20	20-30	30-40
Mono1	26	23	23	21
Mono2	21	22	22	22
Mono3	18	20	14	16
Mono4	27	27	24	25
Rata-rata Mono	23	23	21	21
YCAF1	23	19	15	18
YCAF2	24	23	19	16
YCAF3	17	14	13	14
YCAF4	22	23	21	17
Rata-rata YCAF	21	20	17	16
OCAF1	21	21	19	12
OCAF2	21	18	18	17
OCAF3	23	20	17	14
OCAF4	27	21	18	18
Rata-rata OCAF	23	20	18	15

Lampiran 2.3b. Analisis sidik ragam kelembaban tanah kedalaman 0-10 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	57.00	19.000	2.28	4.8	9.78
Perlakuan	2	6.00	3.000	0.36	5.1	7.21
Galat	6	50.00	8.333			
Total	11	113.00				

KK= 13%

Lampiran 2.3c. Analisis sidik ragam kelembaban tanah kedalaman 10-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	48.25	16.083	2.51	4.8	9.78
Perlakuan	2	26.17	13.083	2.04	5.1	7.21
Galat	6	38.50	6.417			
Total	11	112.92				
KK=	12%					

Lampiran 2.3d. Analisis sidik ragam kelembaban tanah kedalaman 20-30 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	67.58	22.528	3.64	4.8	9.78
Perlakuan	2	30.17	15.083	2.43	5.1	7.21
Galat	6	37.17	6.194			
Total	11	134.92				
KK=	13%					

Lampiran 2.3e. Analisis sidik ragam kelembaban tanah kedalaman 30-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	45.67	15.222	3.28	4.8	9.78
Perlakuan	2	75.50	37.750	8.14	5.1	7.21
Galat	6	27.83	4.639			
Total	11	149.00				
KK=	12%					

Lampiran 2.4a. Kadar hara tanah pada lapisan 0-10 cm di tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF).

Kedalaman 0-10 cm				
Sistem	C-org tanah (%)	N (%)	C/N	P <sub>2</sub> O <sub>5</sub> mg 100 g
Mono1	2.00	0.17	11.76	21.82
Mono2	1.90	0.14	13.57	20.52
Mono3	1.80	0.17	10.59	21.18
Mono4	1.50	0.13	11.54	21.63
Rata-rata Mono	1.80	0.15	11.87	21.29
YCAF1	2.86	0.22	13.00	22.42
YCAF2	2.77	0.28	9.89	23.55
YCAF3	1.94	0.17	11.41	21.28
YCAF4	1.71	0.14	12.21	22.36
Rata-rata YCAF	2.32	0.20	11.63	22.40
OCAF1	1.80	0.14	12.86	12.65
OCAF2	1.74	0.17	10.24	11.23
OCAF3	1.60	0.16	10.00	18.29
OCAF4	1.50	0.11	13.64	20.79
Rata-rata OCAF	1.66	0.15	11.68	15.74

Lampiran 2.4b. Analisis sidik ragam konsentrasi C-org tanah kedalaman 0-10 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.84	0.279	4.53	4.8	9.78
Perlakuan	2	0.97	0.484	7.86	5.1	7.21
Galat	6	0.37	0.062			
Total	11	2.17				

KK= 13%

Lampiran 2.4c. Analisis sidik ragam konsentrasi N-org tanah kedalaman 0-10 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.01	0.003	2.28	4.8	9.78
Perlakuan	2	0.01	0.004	3.42	5.1	7.21
Galat	6	0.01	0.001			
Total	11	0.02				

KK= 20.3%

Lampiran 2.4d. Analisis sidik ragam C/N tanah kedalaman 0-10 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	7.71	2.571	1.25	4.8	9.78
Perlakuan	2	0.12	0.061	0.03	5.1	7.21
Galat	6	12.35	2.059			
Total	11	20.19				
KK=		12.2%				

Lampiran 2.4e. Analisis sidik ragam konsentrasi P<sub>2</sub>O<sub>5</sub> tanah kedalaman 0-10 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	17.96	5.986	0.76	4.8	9.78
Perlakuan	2	101.88	50.938	6.43	5.1	7.21
Galat	6	47.52	7.919			
Total	11	167.35				
KK=		14.2%				

Lampiran 2.5a. Kadar hara tanah pada lapisan 10-20 cm di tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF).

Sistem	Kedalaman 10-20 cm				
	C-org tanah (%)	N (%)	C/N	P <sub>2</sub> O <sub>5</sub> mg 100 g	
Mono1	1.52	0.15	10.13	20.29	
Mono2	1.49	0.13	11.46	14.43	
Mono3	1.67	0.16	10.44	19.39	
Mono4	0.96	0.09	10.67	18.89	
YCAF1	2.29	0.23	9.96	20.86	
YCAF2	2.56	0.26	9.85	19.92	
YCAF3	1.51	0.11	13.73	19.23	
YCAF4	1.85	0.11	16.82	21	
OCAF1	1.56	0.15	10.4	12.86	
OCAF2	1.40	0.14	10	11.35	
OCAF3	1.47	0.11	13.36	13.94	
OCAF4	1.36	0.14	9.71	18.14	

Lampiran 2.5b. Analisis sidik ragam konsentrasi C-org tanah kedalaman 10-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.37	0.124	1.27	4.8	9.78
Perlakuan	2	1.04	0.520	5.31	5.1	7.21
Galat	6	0.59	0.098			
Total	11	2.00				
KK=		19.1%				

Lampiran 2.5c. Analisis sidik ragam konsentrasi N-org tanah kedalaman 10-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.02	0.005	1.70	4.8	9.78
Perlakuan	2	0.01	0.003	1.02	5.1	7.21
Galat	6	0.02	0.003			
Total	11	0.04				
KK=		14.7%				

Lampiran 2.5d. Analisis sidik ragam C/N tanah kedalaman 10-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	14.06	4.687	0.97	4.8	9.78
Perlakuan	2	8.90	4.448	0.92	5.1	7.21
Galat	6	29.05	4.841			
Total	11	52.00				
KK=		19.3%				

Lampiran 2.5e. Analisis sidik ragam konsentrasi P<sub>2</sub>O<sub>5</sub> tanah kedalaman 10-20 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	26.36	8.787	2.44	4.8	9.78
Perlakuan	2	79.54	39.769	11.03	5.1	7.21
Galat	6	21.63	3.605			
Total	11	127.53				
KK=		10.8%				

Lampiran 2.6a. Kadar hara tanah pada lapisan 20-30 cm di tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF).

Sistem	Kedalaman 20 - 30 cm			
	C-org tanah (%)	N (%)	C/N	P <sub>2</sub> O <sub>5</sub> mg 100 g
Mono1	1.83	0.21	8.71	21.11
Mono2	2.53	0.20	12.65	15.51
Mono3	1.46	0.13	11.23	22.09
Mono4	2.47	0.17	14.53	15.97
Rata-rata Mono	2.07	0.18	11.78	18.67
YCAF1	2.66	0.17	15.65	18.83
YCAF2	2.59	0.19	13.63	16.63
YCAF3	1.50	0.11	13.64	19.69
YCAF4	1.63	0.16	10.19	22.03
Rata-rata YCAF	2.10	0.16	13.28	19.30
OCAF1	2.84	0.22	12.91	20.57
OCAF2	1.91	0.14	13.64	21.54
OCAF3	1.40	0.10	14.00	11.18
OCAF4	1.23	0.11	11.18	14.49
Rata-rata OCAF	1.85	0.14	12.93	16.95

Lampiran 2.1.6b. Analisis sidik ragam konsentrasi C-org tanah kedalaman 20-30 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	1.99	0.663	2.62	4.8	9.78
Perlakuan	2	0.15	0.077	0.30	5.1	7.21
Galat	6	1.52	0.253			
Total	11	3.66				
KK=		25.1%				

Lampiran 2.6c. Analisis sidik ragam konsentrasi N-org tanah kedalaman 20-30 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.01	0.004	7.18	4.8	9.78
Perlakuan	2	0.00	0.001	2.09	5.1	7.21
Galat	6	0.00	0.001			
Total	11	0.02				
KK=		15.2%				

Lampiran 2.6d. Analisis sidik ragam C/N tanah kedalaman 20-30 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	3.13	1.043	0.18	4.8	9.78
Perlakuan	2	4.92	2.460	0.42	5.1	7.21
Galat	6	35.05	5.841			
Total	11	43.10				
KK=		19.1%				

Lampiran 2.6e. Analisis sidik ragam konsentrasi P<sub>2</sub>O<sub>5</sub> tanah kedalaman 20-30 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	14.18	4.726	0.26	4.8	9.78
Perlakuan	2	11.85	5.926	0.33	5.1	7.21
Galat	6	109.22	18.203			
Total	11	135.25				
KK=		23.3%				

Lampiran 2.7a. Kadar hara tanah pada lapisan 30-40 cm di tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF).

<b>Sistem</b>	<b>Kedalaman 30 - 40 cm</b>			
	C-org tanah (%)	N (%)	C/N	P <sub>2</sub> O <sub>5</sub> mg 100 g
Mono1	1.45	0.14	10.36	20.35
Mono2	1.47	0.12	12.25	26.67
Mono3	1.71	0.11	15.55	20.46
Mono4	1.76	0.15	11.73	15.03
Rata-rata Mono	1.60	0.13	12.47	20.63
YCAF1	2.42	0.17	14.24	16.63
YCAF2	1.29	0.11	11.73	16.66
YCAF3	0.59	0.06	9.83	20.46
YCAF4	1.51	0.13	11.62	19.91
Rata-rata YCAF	1.45	0.12	11.85	18.42
OCAF1	1.64	0.13	12.62	19.75
OCAF2	1.31	0.09	14.56	20.68
OCAF3	1.20	0.09	13.33	9.93
OCAF4	0.89	0.08	11.13	13.74
Rata-rata OCAF	1.26	0.10	12.91	16.03

Lampiran 2.7b. Analisis sidik ragam konsentrasi C-org tanah kedalaman 30-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF) hasil transformasi SQRT

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.09	0.03	1.035	4.76	9.78
Perlakuan	2	0.03	0.02	0.519	5.14	7.21
Galat	6	0.18	0.03			
Total	11	0.31				

KK= 12.6%

Lampiran 2.7c. Analisis sidik ragam konsentrasi N-org tanah kedalaman 30-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.01	0.002	3.74	4.8	9.78
Perlakuan	2	0.00	0.001	2.11	5.1	7.21
Galat	6	0.00	0.001			
Total	11	0.01				

KK= 19.6%

Lampiran 2.7d. Analisis sidik ragam C/N tanah kedalaman 30-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	3.82	1.274	0.29	4.8	9.78
Perlakuan	2	2.25	1.124	0.25	5.1	7.21
Galat	6	26.72	4.454			
Total	11	32.79				
KK=		17.0%				

Lampiran 2.7e. Analisis sidik ragam konsentrasi P<sub>2</sub>O<sub>5</sub> tanah kedalaman 30-40 cm pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	47.11	15.702	0.85	4.8	9.78
Perlakuan	2	42.39	21.194	1.14	5.1	7.21
Galat	6	111.44	18.573			
Total	11	200.93				
KK=		23.5%				

Lampiran 2.8. Analisis ragam kerapatan panjang akar (KPA) kakao pada empat kelas diameter akar di tiga sistem budidaya kaka. Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Posisi sampel	Kedalaman n	Nilai F Anova dari kelas diameter akar (ordo)									
		Ordo 1		Ordo 2		Ordo 3		Ordo 4		Ordo 5	
		F-hit	F-tab 0.05	F-hit	F-tab 0.05	F-hit	F-tab 0.05	F-hit	F-tab 0.05	F-hit	F-tab 0.05
JH 0,4 m	0-10	0,1		0,53		0,56		0,82		0,11	
	10-20	0,72		0,02		0,93		0,52		0,01	
	20-30	0,21		8,12*		3,91		3,51		4,63	
	30-40	3,69		1,00		0,68		0,30		2,06	
JH 1,2 m	0-10	0,38		0,28		11,62*		0,01		0,83	
	10-20	0,91		0,65		0,54		1,30		2,39	
	20-30	0,14		0,24		0,20		0,61		0,22	
	30-40	1,82		0,45		2,89		0,86		0,82	
JH 1,7 m	0-10	3,3		2,01		2,87		0,50		0,41	
	10-20	10,65*	5.1	4,87	5.1	1,37	5.1	0,70	5.1	1,26	5.1
	20-30	3,72		2,98		5,40*		16,3*		26,4*	
	30-40	7,17*		6,23*		8,52		Na		na	
Rata-rata Kedalaman aman	0-10	0,86		0,89		0,12		0,44		0,02	
	10-20	3,52		0,86		6,21*		0,57		3,26	
	20-30	1,76		8,32*		3,00		6,06*		4,32	
	30-40	9,92*		2,12		5,71*		0,5		3,10	
Rata-rata JHB	0,4 m	0,37		1,90		0,40		1,12		1,47	
	1,2 m	0,12		0,67		0,44		0,18		0,80	
	1,7 m	0,87		1,21		21,9*		12,5 <sup>5*</sup>		7,67*	
Rata-rata total		2,42		10,21*		2,35		1,57		3,13	

Lampiran 2.9. Hasil uji T kerapatan panjang akar (KPA) langsat pada empat kelas diameter akar di dua sistem agroforestri kakao. Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Jarak Horizontal Batang (JHB)	Kedalam an	Nilai F Anova kerapatan panjang akar langsat (naungan)									
		Ordo 1		Ordo 2		Ordo 3		Ordo 4		Ordo 5	
		F-hit	F Tab (0.05)	F-hit	F Tab (0.05)	F-hit	F Tab (0.05)	F-hit	F Tab (0.05)	F-hit	F Tab (0.05)
JH 0,4 m	0-10	1.38		0.91		0.33		3.58*		1,31	
	10-20	0.10	2,01	0.41	2,01	0.96	201	0.18	2,01	1,36	2,01
	20-30	0.76		0.27		1.62		0.98		0,23	
	30-40	na		0.49		2.08*		1.77		0,77	
JH 1,2 m	0-10	0.75		0.90		0.20		0.20		0,23	
	10-20	2.18*		0.49		0.90		0.30		1,26	
	20-30	0,025	2,01	0.33	2,01	0.07	2,01	0.96	2,01	0,50	2,01
	30-40	Na		1.73		1.73		1.73		na	
JH 1,7 m	0-10	1,40		1,86		0.65		1.12		1.23	
	10-20	0,19		1,77		0.18		2.04*		1.23	
	20-30	0,59	2,01	0,24	2,01	0.59	2,01	1.29	2,01	2.09*	2,01
	30-40	0,10		0,28		0.29		1.11		1.44	
Total		0,02		0,77		0,12		2,007		3,8*	

Lampiran 2.10. Analisis ragam kerapatan massa akar (KMA) kakao pada di tiga sistem budidaya kaka. Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Posisi sampel	KMA kakao	
	Anova	
	F hitung	F tabel
JHB 0,4 m	2,00	
JHB 1,2 m	1,35	5,1
JHB 1,7 m	1,07	
0-10	0,18	
10-20	1,13	
20-30	0,19	5,1
30-40	1,22	
Sistem	0,52	5,1

Lampiran 2.11. Hasil uji T kerapatan massa akar (KPA) naungan di dua sistem agroforestri kakao. Agroforestri kakao muda (YCAF); dan Agroforestri kakao Tua (OCAF)

Posisi sampel	KMA naungan	
	T-Test	
	T hitung	T tabel
JHB 0,4 m	3,93*	
JHB 1,2 m	1,34	2,01
JHB 1,7 m	2,81*	
0-10	1,82	
10-20	1,25	
20-30	2,33)	2,01
30-40	1,39	
Sistem	3,11*	2,01

### Lampiran 3

Lampiran 3.1.a. Kerapatan pohon pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan

Plot	Kerapatan pohon (pohon ha <sup>-1</sup> )		
	Kakao	Langsat	Total
Mono1	475	0	475
Mono2	600	0	600
Mono3	725	0	725
Mono4	675	0	675
Rata-rata	619	0	619
YCAF1	725	175	1525
YCAF2	750	50	1350
YCAF3	925	125	1925
YCAF4	800	75	925
Rata-rata	800	106	1431
OCAF1	525	100	725
OCAF2	600	75	750
OCAF3	650	150	900
OCAF4	625	225	875
Rata-rata	600	138	813

Lampiran 3.1.b. Analisis sidik ragam kerapatan pohon kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	58906.25	19635.417	13.00	4.8	9.78
Perlakuan	2	97604.17	48802.083	32.31	5.1	7.21
Galat	6	9062.50	1510.417			
Total	11	165572.92				
KK=		5.8%				

Lampiran 3.1.c. Analisis sidik ragam kerapatan pohon total, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan setelah ditransformasi dengan  $Y^{0.5}$

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	45.73	15.245	1.30	4.8	9.78
Perlakuan	2	342.93	171.463	14.64	5.1	7.21
Galat	6	70.27	11.712			
Total	11	458.93				
KK=		11.3%				

Lampiran 3.2a. Diameter batang pohon pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	Diameter batang		
	Kakao	Langsat	Total
Mono1	15.86	0.00	15.86
Mono2	15.44	0.00	15.44
Mono3	15.40	0.00	15.40
Mono4	14.96	0.00	14.96
Rata-rata	15.41	0.00	15.41
YCAF1	10.36	14.16	9.39
YCAF2	12.69	11.77	9.95
YCAF3	9.22	18.47	7.56
YCAF4	7.99	15.66	10.10
Rata-rata	10.06	15.01	9.25
OCAF1	17.62	19.16	16.40
OCAF2	13.55	12.27	12.03
OCAF3	13.83	18.68	13.75
OCAF4	9.33	21.81	21.49
Rata-rata	13.58	17.98	15.92

Lampiran 3.2b. Analisis sidik ragam diameter batang pohon kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	25.35	8.450	2.36	4.8	9.78
Perlakuan	2	59.14	29.569	8.25	5.1	7.21
Galat	6	21.50	3.583			
Total	11	105.99				

KK= 14.5%

Lampiran 3.2c. Analisis sidik ragam diameter batang total, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	20.58	6.861	1.18	4.8	9.78
Perlakuan	2	110.29	55.144	9.45	5.1	7.21
Galat	6	35.01	5.835			
Total	11	165.88				

KK= 17.9%

Lampiran 3.3a. Luas bidang datar pohon pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	Luas bidang dasar ( $m^2 ha^{-1}$ )		
	Kakao	Langsat	Total
Mono1	10.41	0.00	10.41
Mono2	11.88	0.00	11.88
Mono3	15.26	0.00	15.26
Mono4	12.60	0.00	12.60
Rata-rata	12.54	0.00	12.54
YCAF1	6.68	2.80	14.55
YCAF2	10.04	0.55	12.55
YCAF3	6.60	3.40	8.32
YCAF4	4.30	1.46	9.86
Rata-rata	6.91	2.05	11.32
OCAF1	13.39	3.12	16.95
OCAF2	9.56	0.93	11.12
OCAF3	10.43	4.69	15.62
OCAF4	4.46	8.66	15.30
Rata-rata	9.46	4.35	14.75

Lampiran 3.3b. Analisis sidik ragam luas bidang dasar kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan hasil transformasi LN Y

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.54	0.179	1.88	4.8	9.78
Perlakuan	2	0.80	0.400	4.19	5.1	7.21
Galat	6	0.57	0.095			
Total	11	1.91				
KK=		14.1%				

Lampiran 3.3c. Analisis sidik ragam luas bidang dasar total, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan hasil tranformasi LN Y

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.03	0.011	0.20	4.8	9.78
Perlakuan	2	0.15	0.076	1.39	5.1	7.21
Galat	6	0.33	0.055			
Total	11	0.52				
KK=		9.3%				

Lampiran 3.4a. Tinggi pohon pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	Tinggi pohon (m)		
	Kakao	Langsat	Total
Mono1	4.00	0.00	4.00
Mono2	3.98	0.00	3.98
Mono3	4.26	0.00	4.26
Mono4	4.33	0.00	4.33
Rata-rata	4.14	0.00	4.14
YCAF1	3.15	8.89	3.51
YCAF2	3.84	8.75	3.46
YCAF3	3.46	9.50	3.31
YCAF4	3.48	11.17	4.50
Rata-rata	3.48	9.58	3.69
OCAF1	5.14	10.25	5.85
OCAF2	4.50	7.83	4.86
OCAF3	4.20	9.78	4.94
OCAF4	3.29	18.17	7.71
Rata-rata	4.28	11.51	5.84

Lampiran 3.4b. Analisis sidik ragam tinggi pohon kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.32	0.108	0.36	4.8	9.78
Perlakuan	2	1.46	0.730	2.45	5.1	7.21
Galat	6	1.79	0.298			
Total	11	3.57				
KK=		13.7%				

Lampiran 3.4c. Analisis sidik ragam tinggi pohon total, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan, Hasil transformasi 1/Y

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.01	0.002	5.38	4.8	9.78
Perlakuan	2	0.02	0.010	27.55	5.1	7.21
Galat	6	0.00	0.000			
Total	11	0.03				
KK=		8.2%				

Lampiran 3.5a. H-index, tutupan tajuk dan diameter tajuk pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	H' index	Tutupan tajuk	Diameter tajuk
Mono1	0.00	77.42	400.28
Mono2	0.00	80.56	428.63
Mono3	0.00	86.63	372.41
Mono4	0.00	81.40	412.86
Rata-rata	0.00	81.50	403.54
YCAF1	1.36	74.66	333.34
YCAF2	1.14	81.28	379.27
YCAF3	1.05	84.90	284.05
YCAF4	0.43	86.45	382.81
Rata-rata	0.99	81.82	344.87
OCAF1	0.78	81.77	516.67
OCAF2	0.64	84.50	397.08
OCAF3	0.78	84.90	368.41
OCAF4	0.69	87.99	384.00
Rata-rata	0.72	84.79	416.54

Lampiran 3.5b. Analisis sidik ragam H indeks, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.18	0.061	1.20	4.8	9.78
Perlakuan	2	2.12	1.058	20.67	5.1	7.21
Galat	6	0.31	0.051			
Total	11	2.61				
KK=	39.5%					

Lampiran 3.5c. Analisis sidik ragam tutupan tajuk, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	111.82	37.273	6.58	4.8	9.78
Perlakuan	2	26.29	13.144	2.32	5.1	7.21
Galat	6	33.98	5.663			
Total	11	172.08				
KK=		2.9%				

Lampiran 3.5d. Analisis sidik ragam diameter tajuk, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	9574.80	3191.600	1.55	4.8	9.78
Perlakuan	2	11665.16	5832.578	2.83	5.1	7.21
Galat	6	12356.15	2059.358			
Total	11	33596.10				
KK=		11.7%				

**Lampiran 3.6a. Ringkasan Perhitungan hasil setara pohon dari produk non-kakao**

Sistem Budidaya	Jenis pohon	Produksi Hasil (kg ha <sup>-1</sup> )	Harga Produk (Rp/kg)	Pendapatan Kotor Petani (Rp)	Tree equivalent yield (Mg ha <sup>-1</sup> tn <sup>-1</sup> )
Mono 1	Kakao	1592	29.924	47.641.974	1.59
Mono 2	Kakao	1557	29.924	46.593.659	1.56
Mono 3	Kakao	977	29.924	29.236.516	0.98
Mono 4	Kakao	648	29.924	19.380.929	0.65
YCAF 1	Kakao	588	29.924	17.584.551	0.59
YCAF 2	Kakao	715	29.924	21.395.466	0.71
YCAF 3	Kakao	519	29.924	15.534.885	0.52
YCAF 4	Kakao	459	29.924	13.721.159	0.46
YCAF 1	Langsat	5550	3.500	19.425.000	0.65
YCAF 2	Langsat	1300	3.500	4.550.000	0.15
YCAF 3	Langsat	3475	3.500	12.162.500	0.41
YCAF 4	Langsat	1950	3.500	6.825.000	0.23
YCAF 1	Rambutan	306.5	6.000	1.839.000	0.06
YCAF 2	Rambutan	397.8	6.000	2.386.950	0.08
YCAF 3	Rambutan	0	0		0.00
YCAF 4	Rambutan	234.8	6.000	1.408.650	0.05
YCAF 1	Aren	0	0	0	0.00
YCAF 2	Aren	0			0.00
YCAF 3	Aren	0			0.00
YCAF 4	Aren	600	15.000	9.000.000	0.30
YCAF 1	Pakan (kambing)	3.2	1.200.000	3.780.822	0.13
YCAF 2	Pakan (kambing)	2.6	1.200.000	3.123.288	0.10
YCAF 3	Pakan (kambing)	4.8	1.200.000	5.753.425	0.19
YCAF 4	Pakan (kambing)	0	0		0.00
YCAF 1	TEY			0	1.42
YCAF 2	TEY			0	1.05
YCAF 3	TEY			0	1.12
YCAF 4	TEY				1.03
OCAF 1	Kakao	1025.2	29.924	30.679.149	1.03
OCAF 2	Kakao	610.4	29.924	18.264.036	0.61
OCAF 3	Kakao	380.5	29.924	11.384.631	0.38
OCAF 4	Kakao	62.1	29.924	1.859.486	0.06
OCAF 1	Langsat	3075	3.500	10.762.500	0.4
OCAF 2	Langsat	1875	3.500	6.562.500	0.22
OCAF 3	Langsat	5000	3.500	17.500.000	0.58
OCAF 4	Langsat	5525	3.500	19.337.500	0.65
OCAF 1	Durian			0	0
OCAF 2	Durian			0	0.00
OCAF 3	Durian			0	0.00
OCAF 4	Durian	250	10.000	2.500.000	0.08

OCAF 1	TEY	1.38
OCAF 2	TEY	0.83
OCAF 3	TEY	0.97
OCAF 4	TEY	0.79

Lampiran 3.6b. Hasil biji kakao, hasil langsat setara pohon kakao dan hasil total setara biji kakao dalam formula hasil setara pohon (Tree equivalent yield/TEY) pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sistem budidaya kakao	Produksi hasil setara kakao (TEY) (Mg ha <sup>-1</sup> thn <sup>-1</sup> )		
	Kakao	Pohon lain	Total
Mono1	1.59		1.59
Mono2	1.56		1.56
Mono3	0.98		0.98
Mono4	0.65		0.65
Rata-rata	1.19		1.19
YCAF1	0.59	0.84	1.42
YCAF2	0.71	0.34	1.05
YCAF3	0.52	0.60	1.12
YCAF4	0.46	0.58	0.99
Rata-rata	0.57	0.59	1.15
OCAF1	1.03	0.36	1.38
OCAF2	0.61	0.22	0.83
OCAF3	0.38	0.58	0.97
OCAF4	0.06	0.72	0.71
Rata-rata	0.52	0.47	0.97

Lampiran 3.6c. Analisis sidik ragam hasil biji kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.87	0.291	5.93	4.8	9.78
Perlakuan	2	1.13	0.566	11.54	5.1	7.21
Galat	6	0.29	0.049			
Total	11	2.30				
KK=	29.1%					

Lampiran 3.6d. Analisis sidik ragam hasil setara pohon kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.72	0.240	5.22	4.8	9.78
Perlakuan	2	0.11	0.055	1.18	5.1	7.21
Galat	6	0.28	0.046			
Total	11	1.11				
KK=		19.4%				

Lampiran 3.6e. Uji-T hasil pohon non-kakao, pada dua sistem agroforestri; Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

	YCAF	OCAF
Mean	0.586945	0.473389
Variance	0.04188	0.05188
Observations	4	4
Hypothesized Mean		
Difference	0	
df	6	
t Stat	0.741708	
P(T<=t) one-tail	0.243136	
t Critical one-tail	1.94318	
P(T<=t) two-tail	0.486272	
t Critical two-tail	2.446912	

Lampiran 3.7a. Hasil hara ND (Nitrogen daun), PD (Posfor daun) dan KD (Kalium daun) tanaman kakao pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	ND kakao	PD daun kakao	KD kakao
Mono1	1.37	0.12	0.97
Mono2	1.05	0.12	1.03
Mono3	0.98	0.12	1.09
Mono4	1.02	0.10	0.88
Rata-rata	1.11	0.12	1.00
YCAF1	1.01	0.13	1.09
YCAF2	1.03	0.13	0.94
YCAF3	1.07	0.13	0.97
YCAF4	1.63	0.14	1.02
Rata-rata	1.19	0.13	1.00
OCAF1	1.00	0.09	1.13
OCAF2	1.44	0.14	0.89
OCAF3	0.81	0.08	0.77
OCAF4	0.87	0.13	0.93
Rata-rata	1.03	0.11	0.93

Lampiran 3.7b. Analisis sidik ragam kadar N-daun kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.10	0.033	0.39	4.8	9.78
Perlakuan	2	0.05	0.024	0.28	5.1	7.21
Galat	6	0.51	0.084			
Total	11	0.65				
KK=		26.3%				

Lampiran 3.7c. Analisis sidik ragam kadar P-daun kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.00	0.000	0.68	4.8	9.78
Perlakuan	2	0.00	0.001	1.51	5.1	7.21
Galat	6	0.00	0.000			
Total	11	0.00				
KK=		16.1%				

Lampiran 3.7d. Analisis sidik ragam kadar K-daun kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.03	0.010	0.84	4.8	9.78
Perlakuan	2	0.01	0.006	0.53	5.1	7.21
Galat	6	0.07	0.012			
Total	11	0.12				
KK=		11.3%				

Lampiran 3.8a. Hasil Berat daun spesifik (BDS) dan Luas Daun Spesifik (LDS) tanaman kakao pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan.

Plot	Berat Daun Spesifik	Luas Daun Spesifik
Mono1	6.14	151.14
Mono2	6.73	146.40
Mono3	6.00	167.00
Mono4	6.86	144.85
Rata-rata	6.43	152.35
YCAF1	5.85	172.11
YCAF2	5.94	166.87
YCAF3	5.95	167.41
YCAF4	6.18	162.82
Rata-rata	5.98	167.30
OCAF1	6.96	148.11
OCAF2	6.67	145.39
OCAF3	6.04	154.88
OCAF4	5.37	189.80
Rata-rata	6.26	159.55

Lampiran 3.8b. Analisis sidik ragam berat daun spesifik (LDS) kadar K-daun kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.35	0.117	0.40	4.8	9.78
Perlakuan	2	0.42	0.209	0.72	5.1	7.21
Galat	6	1.75	0.292			
Total	11	2.52				
KK=		8.7%				

Lampiran 3.8c. Analisis sidik ragam Luas daun spesifik (LDS) kadar K-daun kakao, pada tiga sistem budidaya kakao; Monokultur kakao (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) dan empat ulangan  $\lambda=0$

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	306.32	102.106	0.47	4.8	9.78
Perlakuan	2	447.51	223.757	1.02	5.1	7.21
Galat	6	1313.07	218.846			
Total	11	2066.91				
KK=		9.3%				

## Lampiran 4

Lampiran 4.1a. Rata-rata biomasa di atas tanah (AGB) dan di bawah tanah (BGB) ( $\text{Mg ha}^{-1}$ ) tegakan kakao dan tegakan total pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Plot	AGB kakao ( $\text{Mg ha}^{-1}$ )	AGB naungan ( $\text{Mg ha}^{-1}$ )	AGB Total (kakao+ naungan) ( $\text{Mg ha}^{-1}$ )	BGB kakao ( $\text{Mg ha}^{-1}$ )	BGB naungan ( $\text{Mg ha}^{-1}$ )	BGB kakao+ naungan ( $\text{Mg ha}^{-1}$ )	AGB+BGB Kakao+ naungan ( $\text{Mg ha}^{-1}$ )	Rasio tahuuk: akar (Ratio AGB/ BGB kakao)	Rasio tajuk : akar naungan (Ratio AGB/ BGB naungan)	Rasio total tajuk : akar (AGB/BGB)
Mono1	16.01		16.01	3.63		3.63	19.64	4.41		4.41
Mono2	17.27		17.27	4.01		4.01	21.28	4.31		4.31
Mono3	22.15		22.15	5.06		5.06	27.21	4.38		4.38
Mono4	18.33		18.33	4.28		4.28	22.61	4.28		4.28
YCAF1	9.78	58.78	68.56	2.47	10.74	13.21	81.77	3.97	5.47	5.19
YCAF2	14.65	19.26	33.91	3.56	3.90	7.45	41.37	4.12	4.94	4.55
YCAF3	9.69	33.18	42.87	2.52	6.20	8.72	51.59	3.84	5.35	4.91
YCAF4	6.33	41.85	48.18	1.70	7.05	8.75	56.93	3.72	5.94	5.51
OCAF1	19.42	20.78	40.20	4.39	3.86	8.25	48.46	4.43	5.38	4.87
OCAF2	13.91	15.99	29.90	3.29	2.92	6.20	36.11	4.23	5.48	4.82
OCAF3	15.17	36.85	52.03	3.56	6.78	10.34	62.37	4.26	5.44	5.03
OCAF4	9.03	38.26	47.29	2.20	6.97	9.17	56.47	4.11	5.49	5.16

Lampiran 4.1b. Analisis sidik ragam biomasa di atas tanah (AGB) ( $Mg\ ha^{-1}$ ) tegakan tanaman kakao. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF).

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	38.54	12.848	1.06	4.8	9.78
Perlakuan	2	138.72	69.362	5.74	5.1	7.21
Galat	6	72.56	12.093			
Total	11	249.83				
KK=		24.3%				

Lampiran 4.1c. Analisis sidik ragam biomasa di atas tanah (AGB) total tegakan pohon. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF).

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	355.52	118.505	1.26	4.8	9.78
Perlakuan	2	1946.58	973.291	10.35	5.1	7.21
Galat	6	564.06	94.010			
Total	11	2866.16				
KK=		26.8%				

Lampiran 4.1d. Analisis sidik ragam biomasa di bawah tanah (BGB) tegakan pohon kakao. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF).

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	1.83	0.609	1.05	4.8	9.78
Perlakuan	2	5.67	2.833	4.89	5.1	7.21
Galat	6	3.47	0.579			
Total	11	10.97				
KK=		22.4%				

Lampiran 4.1f. Analisis sidik ragam biomasa di atas dan di bawah tanah (AGB + BGB) total tegakan pohon. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF).

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	507.73	169.245	1.28	4.8	9.78
Perlakuan	2	2779.25	1389.627	10.49	5.1	7.21
Galat	6	795.04	132.507			
Total	11	4082.03				
KK=		26.3%				

Lampiran 4.1g. Analisis ragam Rasio tajuk ; akar kakao tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.09	0.030	3.00	4.8	9.78
Perlakuan	2	0.42	0.209	20.66	5.1	7.21
Galat	6	0.06	0.010			
Total	11	0.57				
KK=		2.4%				

Lampiran 4.2a. Rata-rata biomasa di atas tanah (AGB) dan di bawah tanah (BGB) ( $Mg\ ha^{-1}$ ) tegakan kakao dan tegakan total pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Plot	C-kakao AGB ( $Mg\ ha^{-1}$ )	C-naungan AGB ( $Mg\ ha^{-1}$ )	C-kakao+ naungan AGB ( $Mg\ ha^{-1}$ )	C-kakao BGB ( $Mg\ ha^{-1}$ )	C-kakao AGB+BGB kakao ( $Mg\ ha^{-1}$ )	C-naungan ( $Mg\ ha^{-1}$ )	BGB ( $Mg\ ha^{-1}$ )	C-kakao+ naungan BGB ( $Mg\ ha^{-1}$ )	C-total Tegakan GB+BGB ( $Mg\ ha^{-1}$ )	Total C (AGB+BGB) ( $Mg\ ha^{-1}$ )
Mono 1	7.37		7.37	1.67	9.04			1.67	9.04	16.40
Mono 2	7.94		7.94	1.84	9.79			1.84	9.79	17.73
Mono 3	10.19		10.19	2.33	12.52			2.33	12.52	22.71
Mono 4	8.43		8.43	1.97	10.40			1.97	10.40	18.83
YCAF 1	4.50	27.04	31.54	1.13	5.63	4.94		6.08	37.61	69.15
YCAF 2	6.74	8.86	15.60	1.64	8.38	1.79		3.43	19.03	34.63
YCAF 3	4.46	15.26	19.72	1.16	5.62	2.85		4.01	23.73	43.45
YCAF 4	2.91	19.25	22.16	0.78	3.70	3.24		4.03	26.19	48.35
OCAF 1	8.93	9.56	18.49	2.02	10.95	1.78		3.80	22.29	40.78
OCAF 2	6.40	7.36	13.76	1.51	7.91	1.34		2.90	16.65	30.41
OCAF 3	6.98	16.95	23.93	1.64	8.62	3.12		4.76	28.69	52.62
OCAF 4	4.15	17.60	21.76	1.01	5.17	3.21		4.22	25.97	47.73

Lampiran 4.2b. Analisis ragam Rasio tajuk ; akar total tegakan tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.27	0.092	1.78	4.8	9.78
Perlakuan	2	1.17	0.586	11.38	5.1	7.21
Galat	6	0.31	0.051			
Total	11	1.75				
KK=		4.7%				

Lampiran 4.2c. Analisis ragam C tersimpan dalam AGB kakao pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	8.18	2.728	1.07	4.8	9.78
Perlakuan	2	29.34	14.672	5.74	5.1	7.21
Galat	6	15.33	2.556			
Total	11	52.86				
KK=		24.3%				

Lampiran 4.2d. Analisis ragam C tersimpan dalam AGB ( $Mg C ha^{-1}$ ) kakao pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	78.71	26.236	1.30	4.8	9.78
Perlakuan	2	424.55	212.273	10.49	5.1	7.21
Galat	6	121.38	20.230			
Total	11	624.63				
KK=		26.9%				

Lampiran 4.2e. Analisis ragam C tersimpan dalam BGB ( $Mg C ha^{-1}$ ) pohon kakao pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.39	0.129	1.04	4.8	9.78
Perlakuan	2	1.20	0.601	4.85	5.1	7.21
Galat	6	0.74	0.124			
Total	11	2.33				
KK=		22.6%				

Lampiran 4.2f. Rata-rata C tersimpan dalam BGB ( $Mg C ha^{-1}$ ) dalam total tegakan pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Perlakuan	Kelompok				Total	Rata-rata
	I	II	III	IV		
Mono	1.67	1.84	2.33	1.97	8	1.953
YCAF	6.08	3.43	4.01	4.03	18	4.386
OCAF	3.80	2.90	4.76	4.22	16	3.918
Total	12	8	11	10	41	

Lampiran 4.2g. Analisis ragam C tersimpan dalam BGB total tegakan pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	2.25	0.749	1.15	4.8	9.78
Perlakuan	2	13.36	6.679	10.30	5.1	7.21
Galat	6	3.89	0.648			
Total	11	19.50				
KK=		23.5%				

Lampiran 4.2h. Analisis ragam C tersimpan dalam AGB + BGB kakao pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	12.06	4.021	1.06	4.8	9.78
Perlakuan	2	42.41	21.207	5.59	5.1	7.21
Galat	6	22.77	3.795			
Total	11	77.25				
KK=		23.9%				

Lampiran 4.2i. Analisis ragam C tersimpan dalam AGB+BGB total tegakan pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	107.03	35.677	1.27	4.8	9.78
Perlakuan	2	588.06	294.030	10.50	5.1	7.21
Galat	6	167.99	27.998			
Total	11	863.08				
KK=		26.2%				

Lampiran 4.3a. Rata-rata nekromasa, Biomasa TB (Tumbuhan bawah), guguran seresah, biomasa biji kakao, kulit dan total buah kakao ( $Mg C ha^{-2}$ ) pada tiga sistem budidaya: Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Systems	Necromass (Mg/ha)	Biomasa total TB (Mg ha <sup>-1</sup> )	Biomasa guguran seresah (Mg ha <sup>-1</sup> )	Biomassa biji kakao (Mg ha <sup>-1</sup> )	Biomasa Kulit kakao (Mg ha <sup>-1</sup> )	Biomasa buah kakao (Mg ha <sup>-1</sup> )
Mono 1	6.02	0.014	1.83	1.59	1.56	3.15
Mono 2	5.27	0.018	1.98	1.56	1.90	3.46
Mono 3	7.12	0.011	2.36	0.98	1.07	2.04
Mono 4	10.42	0.442	1.81	0.65	0.72	1.37
YCAF 1	3.81	0.057	1.32	0.59	0.47	1.06
YCAF 2	8.08	0.232	2.11	0.71	0.83	1.55
YCAF 3	6.19	0.082	1.70	0.52	0.45	0.97
YCAF 4	10.47	0.633	1.65	0.46	0.46	0.92
OCAF 1	11.10	0.017	2.10	1.03	1.74	2.76
OCAF 2	11.15	0.114	1.86	0.61	0.97	1.58
OCAF 3	14.40	0.035	2.10	0.38	0.86	1.24
OCAF 4	9.43	0.031	2.60	0.06	0.13	0.20

Lampiran 4.3b. Hasil analisis ragam nekromasa pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	16.49	5.497	0.92	4.8	9.78
Perlakuan	2	50.41	25.206	4.21	5.1	7.21
Galat	6	35.94	5.990			
Total	11	102.84				
KK=		28.4%				

Lampiran 4.3c. Hasil analisis ragam dalam biomasa tumbuhan bawah pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) hasil transformasi SQRT

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.07	0.02	3.358	4.76	9.78
Perlakuan	2	0.03	0.01	1.967	5.14	7.21
Galat	6	0.04	0.01			
Total	11	0.14				
KK=		10.7%				

Lampiran 4.3d. Hasil analisis ragam guguran serasah pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.17	0.057	0.54	4.8	9.78
Perlakuan	2	0.45	0.227	2.16	5.1	7.21
Galat	6	0.63	0.105			
Total	11	1.25				
KK=		16.6%				

Lampiran 4.3e. Hasil analisis ragam biomasa buah kakao ( $Mg\ ha^{-2}$ ) pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	7250931.60	2416977.199	11.44	4.8	9.78
Perlakuan	2	6964080.20	3482040.098	16.47	5.1	7.21
Galat	6	1268131.31	211355.219			
Total	11	15483143.11				
KK=		30.3%				

Lampiran 4.4a. Rata-rata nekromasa, Biomasa TB (Tumbuhan bawah), guguran seresah, biomasa biji kakao, kulit dan total buah kakao ( $Mg C ha^{-2}$ ) pada tiga sistem budidaya: Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Plot	C-total seresah ( $Mg ha^{-1}$ )	C-total TB ( $Mg ha^{-1}$ )	C-total guguran seresah ( $Mg ha^{-1}$ )	C biji kakao ( $Mg ha^{-1}$ )	C Kulit kakao ( $Mg ha^{-1}$ )
Mono 1	2.77	0.007	0.84	0.88	0.72
Mono 2	2.42	0.008	0.91	0.86	0.87
Mono 3	3.28	0.005	1.09	0.54	0.49
Mono 4	4.79	0.203	0.83	0.36	0.33
YCAF 1	1.75	0.026	0.61	0.32	0.22
YCAF 2	3.72	0.107	0.97	0.39	0.38
YCAF 3	2.85	0.038	0.78	0.29	0.21
YCAF 4	4.82	0.291	0.76	0.25	0.21
OCAF 1	5.10	0.008	0.97	0.56	0.80
OCAF 2	5.13	0.053	0.86	0.34	0.45
OCAF 3	6.62	0.016	0.97	0.21	0.39
OCAF 4	4.34	0.014	1.19	0.03	0.06

Lampiran 4.4b. Hasil analisis ragam dalam C tersimpan dalam nekromasa pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	3.51	1.169	0.92	4.8	9.78
Perlakuan	2	10.64	5.321	4.21	5.1	7.21
Galat	6	7.59	1.265			
Total	11	21.74				
KK=	28.4%					

Lampiran 4.4c. Hasil analisis ragam C tersimpan dalam biomassa tumbuhan bawah pada tiga sistem budidaya; Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.02	0.01	3.340	4.76	9.78
Perlakuan	2	0.01	0.00	1.925	5.14	7.21
Galat	6	0.01	0.00			
Total	11	0.04				
KK=	5.7%					

Lampiran 4.4d. Hasil analisis ragam C tersimpan dalam guguran serasah pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.04	0.012	0.54	4.8	9.78
Perlakuan	2	0.10	0.048	2.22	5.1	7.21
Galat	6	0.13	0.022			
Total	11	0.26				
KK=		16.5%				

Lampiran 4.4e. Hasil analisis ragam rata-rata buah kakao (kulit, plasenta dan biji) pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF) hasil transformasi SQRT+0,5

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	0.21	0.07	4.772	4.76	9.78
Perlakuan	2	0.19	0.09	6.322	5.14	7.21
Galat	6	0.09	0.01			
Total	11	0.48				
KK=		10.6%				

Lampiran 4.5a. Rata-rata C-pool organik tanah berbatu ( $Mg\ C\ ha^{-2}$ ), Biomasa TB (Tumbuhan bawah), guguran seresah, biomasa biji kakao, kulit dan total buah kakao ( $Mg\ C\ ha^{-2}$ ) pada tiga sistem budidaya: Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Plot	Kedalaman tanah (cm)			
	0-10	10-20	20-30	30-40
Mono 1	19.5	14.8	13.7	10.9
Mono 2	20.4	16.0	16.2	9.4
Mono 3	13.1	12.1	8.0	9.4
Mono 4	9.9	6.3	8.7	6.2
YCAF 1	35.8	28.7	31.6	28.8
YCAF 2	24.9	23.0	14.1	7.0
YCAF 3	19.8	15.4	5.7	2.3
YCAF 4	14.7	15.9	6.6	6.1
OCAF 1	10.8	7.8	20.7	12.0
OCAF 2	18.6	15.0	11.3	7.7
OCAF 3	16.8	15.5	4.8	4.1
OCAF 4	21.9	19.8	6.4	4.6

Lampiran 4.5b. Hasil total karbon organik tanah ( $Mg\ C\ ha^{-2}$ ) pada tiga sistem budidaya. Kakao monokultur (Mono); Agroforestri kakao muda (YCAF); dan Agroforestri kakao tua (OCAF)

Sidik ragam	db	JK	KT	F hitung	F tabel	
					0.05	0.01
Kelompok	3	353.39	117.796	4.50	4.8	9.78
Perlakuan	2	252.98	126.491	4.84	5.1	7.21
Galat	6	156.95	26.158			
Total	11	763.32				
KK=		14.5%				

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Tahun	Judul	Nama Jurnal
2022	Tree density impact on growth, roots length density, and yield in agroforestry based cocoa	Biodiversitas (Q3) Volume 23, Number 1, January 2022 Doi: 10.13057/biodiv/d230154 Hal. 503-513

#### **E. Karya Ilmiah Lain**

Tahun	Judul	Nama Jurnal
2017	Pengaruh kerapatan naungan terhadap pertumbuhan awal tanaman kakao di lapangan	Jurnal Agropet, Volume 14 (2) Juni 2017

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- 2010 Study Kasus Defisiensi Tanaman Kelapa Sawit di Morowali, Propinsi Sulawesi Tengah
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